

Shape

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we live

Bachelor of Engineering (Mechanical) (Honours)

Mechanical engineers work with machines and mechanical systems to develop better manufacturing methods. This program teaches you the finer points of engineering and machine design, fluid mechanics and production engineering, with options to specialise in areas such as electrical and electronic engineering, mechatronic engineering, town planning studies and supply chain management.

In this program you will:

- Learn how to use mathematical and scientific principles to solve a wide range of technical problems
- Get plenty of hands-on experience, including 12 weeks work experience with professional engineers
- Complete a major final-year research project on a topic of your choice
- Learn from industry professionals through guest lectures that expose you to current engineering professional practice
- Recreate interactive real-life scenarios in USC's state-of-the-art visualisation studio and dedicated engineering laboratories

Exemption for first year Mathematics

High achieving mathematics students can apply for exemptions to introductory mathematics and calculus subjects. However, exempted courses will need to be replaced with engineering relevant courses to fulfil requirements of the degree. Apply through the School of Science and Engineering.

Post-admission requirements

Students must complete 60 days of suitable field experience.

Career opportunities

- Government agencies
- Pharmaceutical companies
- Engineering consultancies
- Research organisations
- Mining industry
- Chemical processing
- Construction
- Manufacturing
- Oil and gas
- Automotive
- Aviation
- Transport
- Defence
- Agriculture

Membership

Engineering students are eligible for free membership to Engineers Australia. Once their degree is completed they are eligible for Graduate membership.

This program is internationally recognised to allow you to work in Australia and overseas.

MORE INFORMATION

Contact the International Office
study@usc.edu.au
+61 7 5430 2843

usc.edu.au/sc411 | CRICOS code: 090700D

University of the Sunshine Coast | CRICOS Provider Number: 01595D | Correct as at 23 September 2021
Note: Study options and semester of offer can vary depending on the study location. For full details, visit usc.edu.au.

PROGRAM STRUCTURE

Introductory courses (8) 96 units

ENG101 Foundations of Engineering
ENG102 Engineering Statics
ENG103 Introduction to the Internet of Things
ENG104 Introduction to Engineering Design
MTH103 Introduction to Applied Mathematics
MTH104 Introductory Calculus
SCI107 Physics
SCI110 Science Research Methods

Developing courses (8) 96 units

MEC200 Thermofluids 1
MEC205 Dynamics 1
MEC221 Mechanics of Materials
MEC225 Engineering Materials
MEC226 Manufacturing Technology
MEC227 Mechanical Design 1
MTH201 Calculus II and Linear Algebra
MTH203 Numerical Analysis

Graduate courses (12) 144 units

ENG302 Engineering Project Management
ENG304 Engineering Research Methodology
ENG401 Engineering Project 1
ENG402 Engineering Project 2
MEC300 Mechanical Design 2
MEC301 Materials Technology
MEC302 Thermofluids 2
MEC303 Computational Mechanics
MEC335 Production Engineering
MEC336 Engineering System Design
MEC400 Thermofluids 3
MEC405 Advanced Dynamics and Control

Minor courses (4) 48 units

Students must select one minor (48 units) from the following:

- Electrical and Electronic Engineering (for Mechanical Engineers)**
- Mechatronic Engineering (for Mechanical Engineers)**
- Civil Engineering (for Mechanical and Mechatronic Engineers)
- Climate Change and Coastal Zone Studies
- Environmental Studies for Engineers[^]
- Management for Engineers[^]
- Town Planning Studies[^]
- Public Health for Engineers[^]
- Entrepreneurship
- Visualisation and Animation
- Wider Engineering Studies

[^]Not available at Moreton Bay campus

**Not available at Sunshine Coast campus

· Honours

The Bachelor of Engineering (Civil) (Honours) may be awarded with Honours. The class of Honours to be awarded to a student is dependent upon:

- the percentage results achieved by study or transfer in twelve courses (144 units) as specified in the table below; and
- the student achieving at least 65% in ENG402 Engineering Project 2.

COURSES

MTH203 Numerical Analysis
MEC301 Materials Technology
ENG302 Engineering Project Management
MEC303 Computational Mechanics
MEC335 Production Engineering
MEC336 Engineering System Design
MEC300 Mechanical Design 2
ENG304 Engineering Research Methodology
ENG401 Engineering Project 1
ENG402 Engineering Project 2
MEC405 Advanced Dynamics and Control
MEC400 Thermofluids 3

A student must complete a minimum of 8 courses (96 units) in the table and the research project for an honours grade to be awarded.

The minimum levels of achievement normally required for each class of honours are shown in the following table:

| HONOURS RESULTS CLASSIFICATION | OVERALL PERCENTAGE ATTAINED IN SPECIFIED COURSES* |
|--------------------------------|---|
| Honours Class I | 80% - 100% |
| Honours Class IIA | 70% - 79% |
| Honours Class IIB | 60% - 69% |

*The percentage result shall be rounded up if ≥ 0.5 or rounded down if < 0.5 .

Note: Program structures are subject to change. Not all USC courses are available on every USC campus.