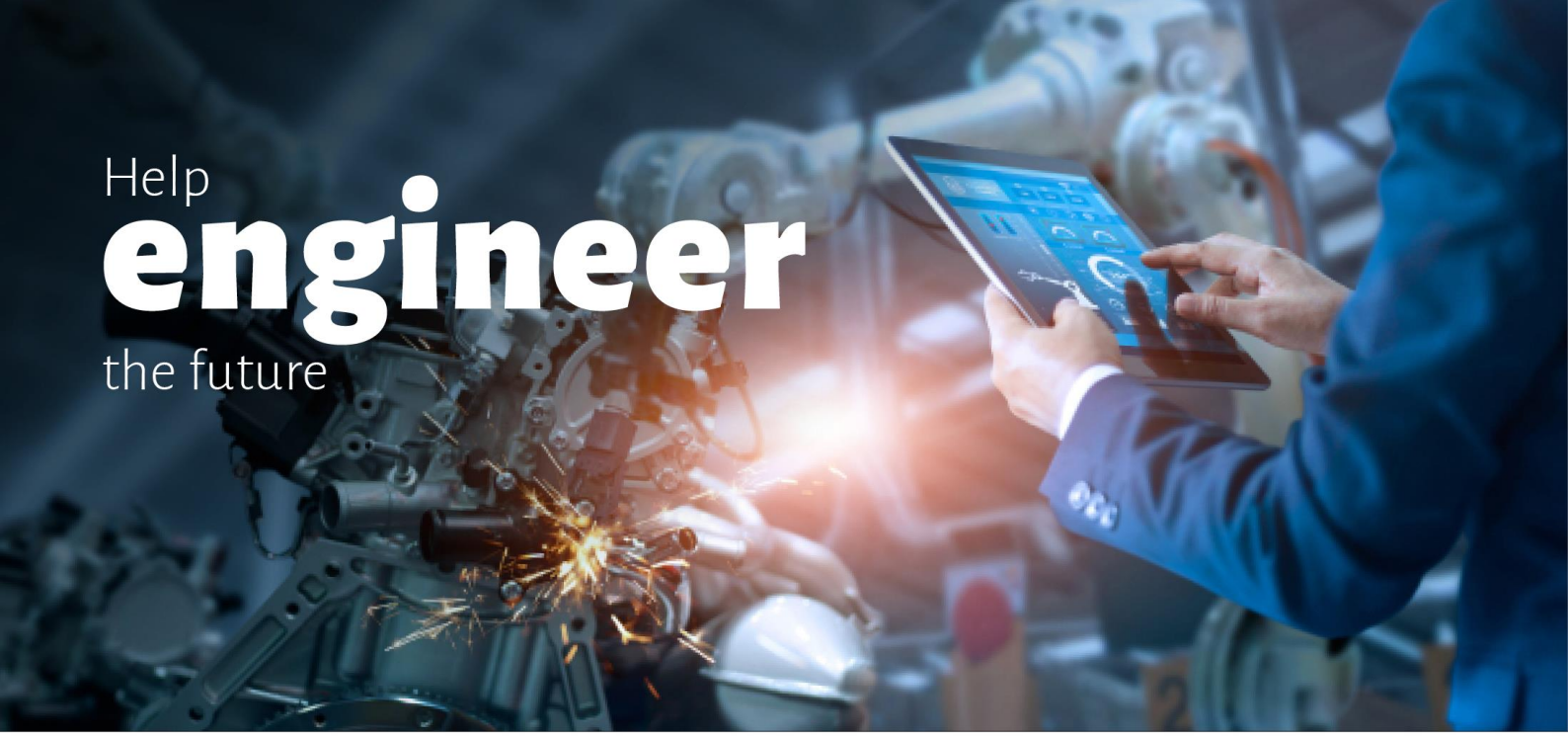

Bachelor of Engineering (Mechatronic) (Honours)

Forget about robots coming to take your job – instead, make it your job to design the robots and automated systems of the future. Mechatronics is an exciting field that combines the best of mechanical, electrical and electronic and computer engineering to create new technologies and constantly improve the systems around us. With automation set to play an increasing role in almost every product and industry, this degree will give you skills that are in demand and future-proof your engineering career.

In this degree you will:

- Study the fundamentals of engineering, including applied maths, physics, statistics and system design
- Learn about robotics and autonomous systems, communication engineering, digital logic and computer programming, machine vision and more
- Choose the area you want to specialise in, including electrical and electronic or mechanical engineering, management or entrepreneurship
- Get hands-on project management experience by designing your own major engineering research project

Career opportunities

Mechatronics engineers work across a range of fields, including robotics engineering, industrial engineering and product design, manufacturing, data communications, automotive and more.

2021 Graduate Outcomes Survey

95% of USC engineering graduates find employment within four months of finishing study.

Membership

Graduates are eligible for registration with Engineers Australia as professional engineers, following five years of suitable professional engineering experience.

Accreditation

This program is currently undergoing provisional accreditation by Engineers Australia.

MORE INFORMATION

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

usc.edu.au/sc405 | CRICOS code: 0100795

University of the Sunshine Coast | CRICOS Provider Number: 01595D | Correct as at 30 November 2021
Note: Study options and semester of offer can vary depending on the study location. For full details, visit usc.edu.au.

USC
Rise, and shine.

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

ELC200 Digital Logic and Computer Programming
ELC201 Analog Electronic Circuits
ELC205 Control Systems
MEC200 Thermofluids 1
MEC205 Dynamics 1
MEC221 Mechanics of Materials
MEC225 Engineering Materials
MCH200 Mechatronic Design 1

Graduate courses (12) 144 units

MTH201 Calculus II and Linear Algebra
MTH203 Numerical Analysis
ELC301 Communications Engineering (Hardware and protocols)
ELC304 Embedded System Design
ENG302 Engineering Project Management
ENG304 Engineering Research Methodology
MCH301 Mechatronic Design 2
MEC336 Engineering System Design
ELC400 Robotics and Autonomous Systems
ENG401 Engineering Project 1
ENG402 Engineering Project 2
MCH400 Image Processing and Machine Vision

Minor courses (4) 48 units

Students must select one of the following minor study areas:

- Electrical and Electronic Engineering (for Mechatronic Engineers)
- Mechanical Engineering (for Mechatronic Engineers)
- Civil Engineering (for Mechanical and Mechatronic Engineers)
- Climate Change and Coastal Zone Studies
- Environmental Studies for Engineers^
- Management for Engineers^
- Entrepreneurship
- Wider Engineering Studies

^Not available at Moreton Bay campus.

Honours

The Bachelor of Engineering (Mechatronic) (Honours) may be awarded with a class of Honours to a student:

- with the percentage results achieved in twelve courses as specified in the table below; and
- achieving at least 65% in **ENG402** Engineering Research Project 2.

COURSES

MTH203 Numerical Analysis

MCH200 Mechatronic Design 1

ELC301 Communications Engineering (Hardware and protocols)

MEC336 Engineering System Design

ENG302 Engineering Project Management

MCH301 Mechatronic Design 2

ELC304 Embedded System Design

ENG304 Engineering Research Methodology

ENG401 Engineering Project 1

ENG402 Engineering Project 2

ELC400 Robotics and Autonomous Systems

MCH400 Image Processing and Machine Vision

- 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.

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