

Bachelor of Engineering (Mechanical) (Honours)



Sunshine Coast, Semester 2 2023

Program structure

Introductory courses (8) 96 units

ENG100 Materials in Engineering
ENG101 Professional Engineering
ENG104 Engineering Design
ENG105 Engineering Statics
ENG106 Engineering Computing
MTH103 Introduction to Applied Mathematics
MTH104 Introductory Calculus
SCI107 Physics

Developing courses (9) 96 units

ENG200 Professional Practice(0 units)
ENG206 Sustainable Engineering (Design)
MEC200 Thermodynamics
MEC202 Mechanical Design
MEC221 Mechanics of Materials
MEC226 Manufacturing Technology
MCH201 Systems and Signals
MTH201 Calculus II and Linear Algebra
MTH203 Numerical Analysis

Graduate courses (14) 192 units

ENG305 Engineering Management
ENG306 Engineering System Design
MCH300 Machine Component Design
MCH302 Robotics and Autonomous Systems
MEC304 Engineering Dynamics
MEC305 Fluid Mechanics
MEC308 System Dynamics and Control
MEC335 Production Engineering
ENG406 Engineering Project 1(24units)
ENG407 Engineering Project 2(24 units)
MCH402 Advanced Control Systems Engineering
MEC401 Advanced Engineering Materials
MEC402 Heat Transfer
MEC403 Computational Analysis

Honours

The Bachelor of Engineering (Civil) (Honours) may be awarded with Honours. The class of Honours awarded to a student is calculated using the mean mark achieved when completing the 96 units of AQF8 level courses (400 coded).

HONOURS RESULTS CLASSIFICATION

MEAN MARK ACHIEVED IN AQF8 COURSES (400 CODED)

Honours Class I

80% - 100%

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Honours Class IIA	70% - 79.5%
Honours Class IIB	60% - 69.5%
Honours Class III	50% - 59.5%
Marginal Fail	47% - 49.5%
Fail	0% - 46.5%

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

Total units: 384

Study sequence

Semester 2

COURSE	SEMESTER OF OFFER (SUNSHINE COAST)	UNITS	REQUISITES
ENG103 Introduction to the Internet of Things	• Semester 2	12	
ENG104 Engineering Design	• Semester 2	12	Anti: ENG202
MTH104 Introductory Calculus	• Semester 2	12	Anti: MTH202
SCI110 Science Research Methods	• Semester 1, Semester 2	12	Anti: SCI201 or CPH261

Semester 1

COURSE	SEMESTER OF OFFER (SUNSHINE COAST)	UNITS	REQUISITES
ENG101 Professional Engineering	• Semester 1	12	
MTH103 Introduction to Applied Mathematics	• Semester 1	12	Anti: MTH102
SCI107 Physics	• Semester 1	12	Anti: SCI108 or SCI507

PLUS select 1 course from your chosen minor.

Semester 2

COURSE	SEMESTER OF OFFER (SUNSHINE COAST)	UNITS	REQUISITES
ENG102 Engineering Statics	• Semester 2	12	Pre: (SCI107 and (MTH103 or MTH102) and enrolled in Program SC404, SC405, SC410, SC411 SC425) or

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			AB101, UU301, UU302 or XU301 Anti: CIV1501(USQ equivalent course)
MEC200 Thermodynamics	• Semester 2	12	Pre: SCI107
MEC227 Mechanical Design 1	• Semester 2	12	Pre: ENG202 or ENG104 or ENG1100 and enrolled in Program SC013, AB101, SC410, SC411, SC425, SC404, SC405 Co: ENG104 and enrolled in Program SC013 Antirequisite; ENG227 or MEC2304
MTH203 Numerical Analysis	• Semester 2	12	Pre: MTH202 or (MTH103 and MTH104) Anti: MTH532 or MTH312

Semester 1

COURSE	SEMESTER OF OFFER (SUNSHINE COAST)	UNITS	REQUISITES
MEC205 Dynamics 1	• Semester 1	12	Pre: (MTH104 or MTH202) and ENG102 and enrolled in SC404, SC405, SC410, SC411 or SC425 Anti: ENG205 or MEC2401
MEC221 Mechanics of Materials	• Semester 1	12	Pre: ENG100 Anti: ENG221
MEC225 Engineering Materials	• Semester 1	12	Pre: MTH102 or MTH103 and enrolled in program SC367, SC404, SC405, SC410, SC411, SC425, AB101, UU301, UU302 or XU301. Anti: ENG225 or MEC1201
MTH201 Calculus II and Linear Algebra	• Semester 1	12	Pre: MTH104 or MTH202

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Semester 2

COURSE	SEMESTER OF OFFER (SUNSHINE COAST)	UNITS	REQUISITES
ENG304 Engineering Research Methodology	• Semester 2	12	Pre: 192 units and enrolled in Program SC404, SC405, SC410, SC411, SC425
MEC303 Computational Mechanics	• Semester 2	12	Pre: ENG227 or MEC227 or MCH200 and (ENG205 or MEC205 or MEC2401) and (ENG221 or MEC221) and enrolled in Program SC405 or SC411 Anti: MEC3302 or ENG303
MEC226 Manufacturing Technology	• Semester 1	12	Anti: ENG226

PLUS select 1 course from your chosen minor.

Semester 1

COURSE	SEMESTER OF OFFER (SUNSHINE COAST)	UNITS	REQUISITES
ENG302 Engineering Project Management	• Semester 1	12	
MEC300 Mechanical Design 2	• Semester 1	12	Pre: (ENG221 or MEC221) and (ENG227 or MEC227) Anti: ENG228
MEC302 Thermofluids 2	• Semester 1	12	Pre: MEC200 and MTH203 Anti: ENG300
ENG401 Engineering Project 1	• Semester 1, Semester 2	12	Pre: MEC221 or ELC200, and 228 units completed and enrolled in Program SC404, SC405, SC410, SC411 or SC425 Co: ENG302 and (ENG403 or ENG304)

Semester 2

COURSE	SEMESTER OF OFFER (SUNSHINE COAST)	UNITS	REQUISITES
ENG402 Engineering Project 2	• Semester 1, Semester 2	12	Pre:

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MEC336 Engineering System Design	• Semester 2	12	ENG401 Pre: ENG228 or MEC300 or MEC301 or MCH301 or MEC2301 Anti: ENG336 or MEC3303
MEC405 Advanced Dynamics and Control	• Semester 2	12	Pre: (MTH202 or MTH104) and (ENG205 or MEC205 or MEC2401) and enrolled in Program SC410, SC411, SC425, SC404 or SC405 Anti: ENG405 or MEC3403

PLUS select 1 course from your chosen minor.

Semester 1

COURSE	SEMESTER OF OFFER (SUNSHINE COAST)	UNITS	REQUISITES
MEC301 Materials Technology	• Semester 1	12	Pre: (MTH102 or MTH103) and (ENG225 or MEC225) and enrolled in Program SC411 Anti: ENG301 or MEC3203
MEC335 Production Engineering	• Semester 1	12	Pre: MEC226 Anti: ENG335
MEC400 Thermofluids 3	• Semester 1	12	Pre: MEC302 or ENG300 Anti: ENG400

PLUS select 1 course from your chosen minor.

Program requirements and notes

In order to graduate you must:

- Successfully complete 384 units as outlined in the Program Structure
- Complete a minimum of 60 days of suitable work experience. Students must meet all costs associated with the acquisition of practical experience to satisfy this requirement

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Program notes

- Completing this program within the specified (full-time) duration is based on studying 48 unit points per semester (normally 4 courses) and following the recommended study sequence
- The unit value of all courses is 12 units unless otherwise specified
- It is each student's responsibility to enrol correctly according to your course requisites, program rules and requirements and be aware of the academic calendar dates
- Courses within this program are assessed using a variety of assessment methods including essays, seminar presentations, reports, in-class tests and examinations. Not all courses will necessarily include all methods
- As part of your UniSC program, you may apply to Study Overseas to undertake courses with an overseas higher education provider
- Refer to the Managing your progression page for help in understanding your program structure, reviewing your progress and planning remaining courses.

WIL notes

- Refer to Engineering - Work Experience