

## Bachelor of Engineering (Honours) (BENH) - BEng(Hons)

QTAC code (Australian and New Zealand applicants): Toowoomba campus: 907331; External: 907335;  
Springfield campus: 927331

CRICOS code (International applicants): 079519E

	On-campus <sup>^</sup> #	External
<b>Start:</b>	Semester 1 (February) Semester 2 (July)	Semester 1 (February) Semester 2 (July)
<b>Campus:</b>	Springfield, Toowoomba	-
<b>Fees:</b>	Commonwealth supported place Domestic full fee paying place International full fee paying place	Commonwealth supported place Domestic full fee paying place International full fee paying place
<b>Standard duration:</b>	4 years full-time, 8 years part-time	
<b>Program articulation:</b>	From: <a href="#">Associate Degree of Engineering</a> ; <a href="#">Bachelor of Engineering Science</a>	

### Notes:

In 2023 the program follows the Semester calendar. The [Academic Calendar and Important Dates](#) webpage will allow you to view and download a copy of the important dates for the Semester calendar.

### Footnotes

<sup>^</sup> The only majors available on-campus at UniSQ Springfield are Civil Engineering, Electrical and Electronic Engineering, Mechanical Engineering and Mechatronic Engineering.

# The Instrumentation Control and Automation Engineering major is only available via external study.

## Contact us

Future Australian and New Zealand students	Future International students	Current students
<a href="#">Ask a question</a> Freecall (within Australia): 1800 269 500 Phone (from outside Australia): +61 7 4631 5315 Email: <a href="mailto:study@usq.edu.au">study@usq.edu.au</a>	<a href="#">Ask a question</a> Phone: +61 7 4631 5543 Email: <a href="mailto:international@usq.edu.au">international@usq.edu.au</a>	<a href="#">Ask a question</a> Freecall (within Australia): 1800 007 252 Phone (from outside Australia): +61 7 4631 2285 Email <a href="mailto:usq.support@usq.edu.au">usq.support@usq.edu.au</a>

## Professional accreditation

A graduate of this program is eligible to apply for membership of Engineers Australia as a graduate Professional Engineer. After further professional development, a graduate member with a Bachelor of Engineering (Honours) may apply for chartered status as a Professional Engineer and, when granted, may use the post-nominal MIEAust CPEng.

The Bachelor of Engineering (Honours) program is accredited by Engineers Australia and, through an agreement reached between the professional engineering bodies of other countries (the Washington Accord), is also recognised in those countries that are signatories to the Washington Accord.

## Program aims

The Bachelor of Engineering (Honours) provides students with the knowledge and skills that are necessary to commence practice as a professional engineer; be eligible for graduate membership of Engineers Australia (as a Professional Engineer) and other appropriate professional bodies; and to undertake further advanced level studies in engineering. Specifically the program provides students with a core of basic generic and

technical skills, common to all branches of engineering, and then permits students to undertake an in depth study of either agricultural, civil, computer systems, electrical and electronic, environmental, instrumentation control and automation, mechanical, mechatronic or power engineering. In addition, students are equipped with a knowledge of the industrial and social environments in which they will function as professional engineers. The program also seeks to instil in students a capacity to communicate effectively and adapt to change.

The Bachelor of Engineering (Honours) is primarily vocationally oriented. However, the program has been designed to identify students who have the capacity to undertake further study at an advanced level and to make an original contribution to engineering knowledge.

## Program objectives

On completion of this program, students should be able to:

- Display coherent and comprehensive knowledge of historical, contemporary and emerging theories and concepts that underpin relevant engineering disciplines.
- Recognise the social purpose of engineering and analyse the relationship between human-made products and systems, and community needs.
- Apply well-researched, innovative, industry-relevant systems approaches to solve a range of engineering problems, and to address issues of sustainable practice in diverse environmental, technical and social contexts.
- Apply relevant project management skills and formulate design processes to enable the delivery of engineering projects within given project constraints.
- Make appropriate autonomous judgements by critically evaluating evidence, identifying and analysing ethical issues and applying cultural competencies, including those relevant to indigenous peoples.
- Communicate effectively in English and interpret information for diverse audiences using a range of high-level oral, written and technology-based approaches; and apply effective competencies as a leader, team member and individual within the professional domain.
- Engage in lifelong learning through critical reflection, and be accountable for their personal and professional actions by managing and monitoring personal performance.

## Australian Qualifications Framework

The Australian Qualifications Framework (AQF) is a single national, comprehensive system of qualifications offered by higher education institutions (including universities), vocational education and training institutions and secondary schools. Each AQF qualification has a set of descriptors which define the type and complexity of knowledge, skills and application of knowledge and skills that a graduate who has been awarded that qualification has attained, and the typical volume of learning associated with that qualification type.

This program is at AQF Qualification Level 08. Graduates at this level will have advanced knowledge and skills for professional or highly skilled work and/or further learning.

The full set of levels criteria and qualification type descriptors can be found by visiting [www.aqf.edu.au](http://www.aqf.edu.au).

## Program Information Set

View UniSQ's admission criteria, student profiles and a summary of all offers made under [Course Admission Information Set](#) via the QTAC website.

## Admission requirements

To be eligible for admission, applicants must satisfy the following requirements:

- Have achieved a minimum Australian Tertiary Admission Rank (ATAR) of **74.15**, or equivalent qualification.<sup>^</sup>
- Subject Pre-requisites: English (Units 3 & 4, C) and Mathematical Methods (Units 3 & 4, C) or equivalent.
- English Language Proficiency requirements for Category 2.

Applicants are advised to also address the following:

- Recommended Prior Study: Physics (Units 3 & 4, C) or equivalent.

All students are required to satisfy the applicable [English language requirements](#).

If students do not meet the English language requirements they may apply to study a University-approved [English language program](#). On successful completion of the English language program, students may be admitted to an award program.

<sup>^</sup> These are determined by the University for specific programs each Semester. The 2023 ATAR and tertiary entrance ranks are based on agreed QTAC schedules which assess formal study at Year 12 or [equivalent level](#), tertiary, preparatory, professional or vocational qualifications or work experience, as detailed in the QTAC Assessment of Qualifications Manual and QTAC Assessor Guidelines.

Adjustment factors may help you get into the program of your choice by increasing your entrance rank. The additional points don't apply to all applicants or all programs. Please read the information about UniSQ's [Adjustment Factors](#) carefully to find out what you may be eligible for.

## Program fees

### Commonwealth supported place

A Commonwealth supported place is where the Australian Government makes a contribution towards the cost of a students' higher education and students pay a [student contribution amount](#), which varies depending on the courses undertaken. Students are able to calculate the fees for a particular course via the [Course Fee Schedules](#).

Commonwealth Supported students may be eligible to defer their fees through a Government loan called [HECS-HELP](#).

### Domestic full fee paying place

Domestic full fee paying places are funded entirely through the full fees paid by the student. Full fees vary depending on the courses that are taken. Students are able to calculate the fees for a particular course via the [Course Fee Schedule](#)

Domestic full fee paying students may be eligible to defer their fees through a Government loan called [FEE-HELP](#) provided they meet the residency and citizenship requirements.

Australian citizens, Permanent Humanitarian Visa holders, Permanent Resident visa holders and New Zealand citizens who will be resident outside Australia for the duration of their program pay full tuition fees and are not eligible for [FEE-Help](#).

### International full fee paying place

International students pay full fees. Full fees vary depending on the courses that are taken and whether they are studied on-campus, external or online. Students are able to calculate the fees for a particular course via the [Course Fee Schedules](#).

## Program structure

The Bachelor of Engineering (Honours) is a 32-unit program consisting of Academic Courses and Practice Courses. Students undertake a major of study, including approved courses which students are able to select. Students may choose to substitute four approved courses for a minor of four units in another area of study to their major (except for Mechanical Engineering and Mechatronic Engineering). The available minors and associated courses are listed in the minor studies section.

Academic courses are normally one-unit courses and involve approximately 155 hours of student work per unit.

Practice courses are zero unit courses and each involves approximately 50 hours of student work.

The following table shows the mandatory components of the program:

Program Component	Academic Courses		Practice Courses	
	Number of Courses	Units	Number of Courses	Units
Core Studies	11	11	4	0
Major Study (including approved courses) OR Major Study plus Minor Study	21 OR 17+4	21	4-5 depending upon the major	0
Total	32	32	8–9	0

### Minor Studies

A minor study is a coherent group of four units of courses that provides students with an additional breadth of study in their program. Students who wish to take a minor study before undertaking any course should ensure any pre-requisite courses are completed or exempted, enrolment requirements must be satisfied for any course selected.

Major study	Minor Study available
Agricultural Engineering	Yes
Civil Engineering	Yes
Computer Systems Engineering	Yes
Electrical and Electronic Engineering	Yes
Environmental Engineering	Yes
Instrumentation Control and Automation Engineering	Yes
Mechanical Engineering	No
Mechatronic Engineering	No
Power Engineering	Yes

When students select a minor, courses will only count towards that minor if they have not already counted towards another selected major. Not all minors are available on-campus at all campuses. Students undertaking a Minor study may choose courses from those listed in this section of the Handbook as follows:

Major: All except Mechanical or Mechatronic	Toowoomba (ONC)	Springfield (ONC)	External (EXT)	Online (ONL)	Enrolment requirements
<b>Minor Study – Management. Select the following course:</b>					
<a href="#">ENG4004 Engineering Project and Operations Management</a>				S2, S3	
<b>select 3 other courses from the following list:</b>					
<a href="#">MGT2001 Risk Mitigation, Work Health and Safety</a>	S1	S1		S1	
<a href="#">MGT2007 Leadership</a>				S2	

<a href="#">MGT3004 Creativity, Innovation and Entrepreneurship</a>				S2	
<a href="#">MGT3005 Workforce Design</a>	S1	S1		S1	
<a href="#">MGT3203 Project Management Processes</a>	S2	S2		S2	

<b>Major: Agricultural Engineering</b>	<b>Toowoomba (ONC)</b>	<b>Springfield (ONC)</b>	<b>External (EXT)</b>	<b>Online (ONL)</b>	<b>Enrolment requirements</b>
<b>Minor study: Mechanical Engineering (select 4 courses from the following list):</b>					
<a href="#">MEC2202 Manufacturing Processes</a>	S1	S1		S1	
<a href="#">MEC2406 Introduction to Mechatronics and Automation</a>	S2	S2		S2	
<a href="#">MEC3203 Materials Technology</a>	S1	S1		S1	
<a href="#">MEC3303 Mechanical and Mechatronic System Design</a>	S2	S2		S2	
<a href="#">MEC4406 Robotics and Machine Vision</a>	S2	S2		S2	

<b>Major: Civil Engineering</b>	<b>Toowoomba (ONC)</b>	<b>Springfield (ONC)</b>	<b>External (EXT)</b>	<b>Online (ONL)</b>	<b>Enrolment requirements</b>
<b>Minor study: Mining Engineering (select 4 courses from the following list):</b>					
<a href="#">MIN2001 Mining Technology and Mineral Processing</a>				S1	
<a href="#">MIN2002 Mine Planning and Design</a>				S2	
<a href="#">MIN2003 Mine Operations and Management</a>				S2	

MINAD approved course taken through Central Queensland University (CQU) via cross-institutional enrolment. ENAR12004 Mine Management and Safety OR ENAR11001 Resource Geology			S1 S2		
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Major: Civil Engineering	Toowoomba (ONC)	Springfield (ONC)	External (EXT)	Online (ONL)	Enrolment requirements
<b>Minor study: Transport Engineering (select the following 3 courses):</b>					
<a href="#">CIV5704 Road and Street Engineering</a>				S2	
<a href="#">CIV5705 Pavement Design and Analysis</a>				S1	
<a href="#">URP4001 Movement Network Planning</a>	S2			S2	
<b>Select 1 of the following courses:</b>					
<a href="#">CIV3603 Construction Methods</a>				S2	
<a href="#">ENV2201 Land Studies</a>	S1	S1		S1	

Majors: Agricultural or Environmental Engineering	Toowoomba (ONC)	Springfield (ONC)	External (EXT)	Online (ONL)	Enrolment requirements
<b>Minor study: Climatology (select the following 4 courses):</b>					
<a href="#">CLI1110 Weather and Climate</a>	S1			S1	
<a href="#">CLI2201 Climate Change and Variability</a>				S2	

<a href="#">CLI3301 Climate and Environment Risk Assessment</a>				S1	
<a href="#">CLI3302 Adaptation to Climate Change</a>				S2	

<b>Majors:</b> <b>Environmental or Power Engineering</b>	<b>Toowoomba (ONC)</b>	<b>Springfield (ONC)</b>	<b>External (EXT)</b>	<b>Online (ONL)</b>	<b>Enrolment requirements</b>
<b>Minor study: Geographic Information Systems (select 4 courses from the following list):</b>					
<a href="#">GIS1402 Geographic Information Systems<sup>£</sup></a>	S1	S1		S1, S3	
<a href="#">GIS2405 Spatial Analysis and Modelling</a>	S2			S2	
<a href="#">GIS3406 Remote Sensing and Image Processing</a>	S2			S2	
<a href="#">CSC1401 Foundation Programming<sup>£</sup></a>	S1, S2, S3	S1, S2		S1, S2, S3	
<a href="#">GIS3407 GIS Programming and Visualisation</a>	S1			S1	

**Footnotes**

£ In Semester 3, 2023 this course will be delivered as a Transition (9 week) semester, commencing on 13 November 2023 and concluding on 12 January 2024

<b>Major: All except Mechanical or Mechatronic</b>	<b>Toowoomba (ONC)</b>	<b>Springfield (ONC)</b>	<b>External (EXT)</b>	<b>Online (ONL)</b>	<b>Enrolment requirements</b>
<b>Minor Study – Data Management:</b>					
<a href="#">CSC1401 Foundation Programming<sup>£</sup></a>	S1, S2, S3	S1, S2		S1, S2, S3	
<a href="#">CSC3400 Database Systems<sup>£</sup></a>	S1	S1		S1,S3	
<a href="#">CSC3501 Principles of Data Science and Visualisation<sup>*</sup></a>	S2	S2		S2	

<a href="#">CSC3502 Principles of Big Data Management</a> *	S2	S2		S2	
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#### Footnotes

- £ In Semester 3, 2023 this course will be delivered as a Transition (9 week) semester, commencing on 13 November 2023 and concluding on 12 January 2024
- \* Students are able to use [ENG3104 Engineering Simulations and Computations](#) to satisfy the Requisite Knowledge requirements of this course.

## Required time limits

Students have a maximum of 10 years to complete this program.

## Core courses

The courses that comprise the core studies program are shown in the following table:

Courses	Semester(s) Offered			
	Toowoomba	Springfield	External	Online
<b>Academic Courses</b>				
<a href="#">ENG1002 Introduction to Engineering and Built Environment Applications</a>	1,2	1,2		1,2
<a href="#">ENG1004 Engineering Problem Solving Principles</a>	1	1		1,2
<a href="#">ENG1100 Introduction to Engineering Design</a>	1,2	1,2		1,2
<a href="#">ENG2002 Technology, Sustainability and Society</a>	1,2	1,2		1,2,3
<a href="#">ENG3003 Engineering Management</a> <sup>†</sup>	1, 3	1		1,3
<a href="#">ENG3104 Engineering Simulations and Computations</a>	2	2		2
<a href="#">ENG4110 Engineering Research Methodology</a>	2	2		2
<a href="#">ENG4111 Research Project Part 1</a>	1	1		1
<a href="#">ENG4112 Research Project Part 2</a>	1,2	2		1,2
<a href="#">ENM1600 Engineering Mathematics</a>	1,2	1,2		1,2
<a href="#">ENM2600 Advanced Engineering Mathematics</a> <sup>§</sup>	1	1		1, 3
<b>Practice Courses</b>				
<a href="#">ENG1901 Engineering Practice 1</a>	1,2	1	2,3	
<a href="#">ENG3902 Professional Practice 1</a>			2	
<a href="#">ENG4903 Professional Practice 2</a>	1		2	
<a href="#">ENG4909 Work Experience - Professional</a>				1,2,3

#### Footnotes

- <sup>†</sup> The Semester 3 offering of this course is offered in odd numbered years only.
- <sup>§</sup> Unavailable online in S3 2023

## Major studies

The Bachelor of Engineering (Honours) consists of a core component and a series of major studies. All students must complete the core courses and one of the major studies. The major study provides students with knowledge and skills in a specific discipline. The major study areas in the UniSQ Bachelor of Engineering (Honours) are listed below. The Instrumentation Control and Automation Engineering major is designed for process technologists in industry who wish to upgrade their qualifications. As such, the program will normally be undertaken by external study.



Major	On-Campus Toowoomba	On-Campus Springfield	External
Agricultural Engineering	Yes	No	Yes
Civil Engineering	Yes	Yes	Yes
Computer Systems Engineering	Yes	No	Yes
Electrical and Electronic Engineering	Yes	Yes	Yes
Environmental Engineering	Yes	No	Yes
Instrumentation Control and Automation Engineering	No	No	Yes
Mechanical Engineering	Yes	Yes	Yes
Mechatronic Engineering	Yes	Yes	Yes
Power Engineering	Yes	No	Yes

## Agricultural Engineering major courses

Courses	Semester(s) Offered			
	Toowoomba	Springfield	External	Online
<b>Academic Courses</b>				
<a href="#">AGR2301 Agricultural Science</a>	2			2
<a href="#">AGR2302 Agricultural Machinery</a>	1			1
<a href="#">AGR3303 Agricultural Materials and Post-Harvest Technologies</a>	1			1
<a href="#">AGR3304 Soil Science</a>	1			1
<a href="#">AGR3305 Precision and Smart Technologies in Agriculture</a>	2			2
<a href="#">AGR4305 Agricultural Soil Mechanics</a>	1			1
<a href="#">CIV1501 Engineering Statics</a>	2	2		2,3
<a href="#">CIV2403 Geology and Geomechanics</a>	2	2		2
<a href="#">ENV2103 Hydraulics I</a>	1	1		1
<a href="#">ENV3104 Hydraulics II</a>	1	1		1
<a href="#">ENV3105 Hydrology</a>	2	2		2
<a href="#">ENV4106 Irrigation Science</a>	2			2
<a href="#">MEC1201 Engineering Materials</a>	1,2	1,2		1,2,3
<a href="#">MEC2301 Design of Machine Elements</a>	2	2		2
<a href="#">MEC2401 Dynamics I</a>	1	1		1
<a href="#">MEC2402 Stress Analysis</a>	1	1		1
<a href="#">SVY1500 Spatial Science for Engineers</a>	2	2		2
Approved courses (x4)				
<b>Practice Courses</b>				
<a href="#">AGR2902 Field Practice</a>			3	

AGR3903 Soil and Water Engineering Practice 2			2	
AGR3905 Agricultural Engineering Practice			3	
CIV2901 Geology and Geomechanics Practice	2	2	2,3	
ENV2902 Hydraulics Practice	2	2	1,2,3	

## Civil Engineering major courses

Courses	Semester(s) Offered			
	Toowoomba	Springfield	External	Online
<b>Academic Courses</b>				
CIV1501 Engineering Statics	2	2		2,3
CIV2403 Geology and Geomechanics	2	2		2
CIV2503 Structural Design I	2	2		2
CIV2605 Construction Engineering	1	1		1
CIV3403 Geotechnical Engineering	2	2		2
CIV4505 Structural Analysis	1	1		1
CIV4506 Concrete Structures	1	1		1
CIV3703 Transport Engineering	2	2		2
CIV4508 Structural Design II	1	1		1
ENV2103 Hydraulics I	1	1		1
ENV3104 Hydraulics II	1	1		1
ENV3105 Hydrology	2	2		2
ENV4203 Public Health Engineering	2	2		2
MEC1201 Engineering Materials	1,2	1,2		1,2,3
MEC2402 Stress Analysis	1	1		1
SVY1500 Spatial Science for Engineers	2	2		2
Approved course (x5)				
<b>Practice Courses</b>				
CIV2901 Geology and Geomechanics Practice	2	2	2,3	
CIV3906 Civil Materials Practice	1	1	3	
CIV3907 Civil Systems Practice			3	
CIV4908 Civil Design Practice			1,2	
ENV2902 Hydraulics Practice	2	2	1,2,3	

## Computer Systems Engineering major courses

Courses	Semester(s) Offered			
	Toowoomba	Springfield	External	Online
<b>Academic Courses</b>				
CSC1401 Foundation Programming <sup>£</sup>	1,2,3	1,2		1,2,3
CSC2401 Algorithms and Data Structures	2			2

<a href="#">CSC2402 Object-Oriented Programming in C++</a>	1			1
<a href="#">CSC2408 Software Development Tools</a>	1,2	1,2		1,2
<a href="#">ELE1301 Computer Engineering</a>	1	1		1
<a href="#">ELE1502 Electronic Circuits</a>	1	1		1
<a href="#">ELE1801 Electrical Technology<sup>§</sup></a>	2	2		2,3
<a href="#">ELE2103 Linear Systems and Control</a>	2	2		2
<a href="#">ELE2303 Embedded Systems Design</a>	1	1		1
<a href="#">ELE2601 Telecommunications Principles</a>	1	1		1
<a href="#">ELE3105 Computer Controlled Systems</a>	1	1		1
<a href="#">ELE3107 Signal Processing</a>	2	2		2
<a href="#">ELE3305 Computer Systems and Communications Protocols</a>	1	1		1
<a href="#">ELE4307 Real Time Systems</a>	2	2		2
<a href="#">MAT1101 Discrete Mathematics for Computing</a>	1	1		1
Approved Courses (x6)				
<b>Practice Courses</b>				
<a href="#">ELE1911 Electrical and Electronic Practice A<sup>~‡</sup></a>	2	2	3	
<a href="#">ELE2912 Electrical and Electronic Practice B<sup>‡</sup></a>	1	1	3	
<a href="#">ELE2913 Electrical and Electronic Practice C</a>				2
<a href="#">ELE3914 Electrical and Electronic Practice D</a>	1	1	3	
<a href="#">ELE3915 Electrical and Electronic Practice E</a>	2	2	2	

#### Footnotes

- £ In Semester 3, 2023 this course will be delivered as a Transition (9 week) semester, commencing on 13 November 2023 and concluding on 12 January 2024
- § Unavailable online in S3 2023
- ~ Unavailable in On-Campus mode in S2 2023
- ‡ Unavailable in External mode in S3 2023

## Electrical and Electronic Engineering major courses

Courses	Semester(s) Offered			
	Toowoomba	Springfield	External	Online
<b>Academic Courses</b>				
<a href="#">ELE1301 Computer Engineering</a>	1	1		1
<a href="#">ELE1502 Electronic Circuits</a>	1	1		1
<a href="#">ELE1801 Electrical Technology<sup>§</sup></a>	2	2		2,3
<a href="#">ELE2103 Linear Systems and Control</a>	2	2		2
<a href="#">ELE2303 Embedded Systems Design</a>	1	1		1
<a href="#">ELE2504 Electronic Design and Analysis</a>	2	2		2
<a href="#">ELE2601 Telecommunications Principles</a>	1	1		1
<a href="#">ELE3105 Computer Controlled Systems</a>	1	1		1
<a href="#">ELE3107 Signal Processing</a>	2	2		2

ELE3305 Computer Systems and Communications Protocols	1	1		1
ELE4307 Real Time Systems	2	2		2
ELE3506 Electronic Measurement	2	2		2
ELE3803 Electrical Plant	1	1		1
ELE4605 Fields and Waves	1	1		1
ELE4606 Communication Systems	2	2		2
MEC1201 Engineering Materials	1,2	1,2		1,2,3
Approved Courses (x5)				
<b>Practice Courses</b>				
ELE1911 Electrical and Electronic Practice A <sup>~‡</sup>	2	2	3	
ELE2912 Electrical and Electronic Practice B <sup>‡</sup>	1	1	3	
ELE2913 Electrical and Electronic Practice C				2
ELE3914 Electrical and Electronic Practice D	1	1	3	
ELE3915 Electrical and Electronic Practice E	2	2	2	

#### Footnotes

- § Unavailable online in S3 2023  
~ Unavailable in On-Campus mode in S2 2023  
‡ Unavailable in External mode in S3 2023

## Environmental Engineering major courses

Courses	Semester(s) Offered			
	Toowoomba	Springfield	External	Online
<b>Academic Courses</b>				
AGR3304 Soil Science	1			1
CIV1501 Engineering Statics	2	2		2,3
CIV2403 Geology and Geomechanics	2	2		2
ENV2103 Hydraulics I	1	1		1
ENV2105 Applied Chemistry and Microbiology	1			1
ENV2201 Land Studies	1	1		1
ENV3103 Environmental Pollution	2			2
ENV3104 Hydraulics II	1	1		1
ENV3105 Hydrology	2	2		2
ENV4106 Irrigation Science	2			2
ENV4107 Water Resources Engineering	2			2
ENV4203 Public Health Engineering	2	2		2
ENV4204 Environmental Technology	1			1
ENV4205 Water and Wastewater Treatment				1
MEC1201 Engineering Materials	1,2	1,2		1,2,3
SVY1500 Spatial Science for Engineers	2	2		2
Approved courses (x5)				

<b>Practice Courses</b>				
<a href="#">AGR2902 Field Practice</a>			3	
<a href="#">AGR3903 Soil and Water Engineering Practice 2</a>			2	
<a href="#">CIV2901 Geology and Geomechanics Practice</a>	2	2	2,3	
<a href="#">ENV2902 Hydraulics Practice</a>	2	2	1,2,3	
<a href="#">ENV3904 Environmental Engineering Practice</a>			3	

## Instrumentation Control and Automation Engineering major courses

Courses	Semester(s) Offered			
	Toowoomba	Springfield	External	Online
<b>Academic Courses</b>				
<a href="#">ELE1301 Computer Engineering</a>	1	1		1
<a href="#">ELE1502 Electronic Circuits</a>	1	1		1
<a href="#">ELE1801 Electrical Technology<sup>§</sup></a>	2	2		2,3
<a href="#">ELE2103 Linear Systems and Control</a>	2	2		2
<a href="#">ELE2303 Embedded Systems Design</a>	1	1		1
<a href="#">ELE2504 Electronic Design and Analysis</a>	2	2		2
<a href="#">ELE3105 Computer Controlled Systems</a>	1	1		1
<a href="#">ELE4307 Real Time Systems</a>	2	2		2
<a href="#">ELE3506 Electronic Measurement</a>	2	2		2
<a href="#">ELE4109 Measurement Science and Instrument Engineering</a>				1 (odd years only)
<a href="#">ELE4506 Industrial Process Automation</a>				1
<a href="#">MEC1201 Engineering Materials</a>	1,2	1,2		1,2,3
<a href="#">MEC2106 Introduction to Thermofluids</a>	2	2		2
<a href="#">MEC2501 Process Control Systems</a>				2
<a href="#">MEC3107 Thermofluids</a>	1	1		1
<a href="#">MEC4108 Advanced Thermofluids</a>	1	1		1
<a href="#">MEC4406 Robotics and Machine Vision</a>	2	2		2
Approved Courses (x4)				
<b>Practice Courses</b>				
<a href="#">ELE1911 Electrical and Electronic Practice A<sup>~‡</sup></a>	2	2	3	
<a href="#">ELE2912 Electrical and Electronic Practice B<sup>‡</sup></a>	1	1	3	
<a href="#">ELE2913 Electrical and Electronic Practice C</a>				2
<a href="#">ELE3914 Electrical and Electronic Practice D</a>	1	1	3	
<a href="#">MEC3905 Mechatronic Practice</a>			2	

### Footnotes

- § Unavailable online in S3 2023  
~ Unavailable in On-Campus mode in S2 2023  
‡ Unavailable in External mode in S3 2023

## Mechanical Engineering major courses

Courses	Semester(s) Offered			
	Toowoomba	Springfield	External	Online
<b>Academic Courses</b>				
<a href="#">CIV1501 Engineering Statics</a>	2	2		2,3
<a href="#">ELE1801 Electrical Technology</a> <sup>§</sup>	2	2		2,3
<a href="#">MEC1201 Engineering Materials</a>	1,2	1,2		1,2,3
<a href="#">MEC2106 Introduction to Thermofluids</a>	2	2		2
<a href="#">MEC2202 Manufacturing Processes</a>	1	1		1
<a href="#">MEC2301 Design of Machine Elements</a>	2	2		2
<a href="#">MEC2304 Solid Modelling</a>	2	2		2
<a href="#">MEC2401 Dynamics I</a>	1	1		1
<a href="#">MEC2402 Stress Analysis</a>	1	1		1
<a href="#">MEC2406 Introduction to Mechatronics and Automation</a>	2	2		2
<a href="#">MEC3107 Thermofluids</a>	1	1		1
<a href="#">MEC3203 Materials Technology</a>	1	1		1
<a href="#">MEC3204 Production Engineering</a>	2	2		2
<a href="#">MEC4302 Computational Mechanics in Design</a>	1	1		1
<a href="#">MEC3303 Mechanical and Mechatronic System Design</a>	2	2		2
<a href="#">MEC4403 Advanced Dynamics</a>	2	2		2
<a href="#">MEC4104 Renewable Energy Technology</a>	2	2		2
<a href="#">MEC4108 Advanced Thermofluids</a>	1	1		1
Approved Course (x3)				
<b>Practice Courses</b>				
<a href="#">MEC2901 Mechanical Practice 1</a>	1	1	3	
<a href="#">MEC2902 Mechanical Practice 2</a>	1	1	1	
<a href="#">MEC3903 Mechanical Practice 3</a>	2	2	3	
<a href="#">MEC3904 Mechanical Practice 4</a>	2	2	2	

### Footnotes

§ Unavailable online in S3 2023

## Mechatronic Engineering major courses

Courses	Semester(s) Offered			
	Toowoomba	Springfield	External	Online
<b>Academic Courses</b>				
<a href="#">CIV1501 Engineering Statics</a>	2	2		2,3
<a href="#">ELE1301 Computer Engineering</a>	1	1		1
<a href="#">ELE1502 Electronic Circuits</a>	1	1		1

ELE1801 Electrical Technology <sup>§</sup>	2	2		2,3
ELE2103 Linear Systems and Control	2	2		2
ELE2303 Embedded Systems Design	1	1		1
ELE2504 Electronic Design and Analysis	2	2		2
ELE3105 Computer Controlled Systems	1	1		1
ELE3506 Electronic Measurement	2	2		2
MEC1201 Engineering Materials	1,2	1,2		1,2,3
MEC2202 Manufacturing Processes	1	1		1
MEC2301 Design of Machine Elements	2	2		2
MEC2304 Solid Modelling	2	2		2
MEC2401 Dynamics I	1	1		1
MEC2402 Stress Analysis	1	1		1
MEC2406 Introduction to Mechatronics and Automation	2	2		2
MEC4302 Computational Mechanics in Design	1	1		1
MEC3303 Mechanical and Mechatronic System Design	2	2		2
MEC4403 Advanced Dynamics	2	2		2
MEC4406 Robotics and Machine Vision	2	2		2
Approved Course (x1)				
<b>Practice Courses</b>				
ELE1911 Electrical and Electronic Practice A <sup>~‡</sup>	2	2	3	
MEC2901 Mechanical Practice 1	1	1	3	
MEC2902 Mechanical Practice 2	1	1	1	
MEC3905 Mechatronic Practice			2	

#### Footnotes

- § Unavailable online in S3 2023  
~ Unavailable in On-Campus mode in S2 2023  
‡ Unavailable in External mode in S3 2023

## Power Engineering major courses

Courses	Semester(s) Offered			
	Toowoomba	Springfield	External	Online
<b>Academic Courses</b>				
ELE1301 Computer Engineering	1	1		1
ELE1502 Electronic Circuits	1	1		1
ELE1801 Electrical Technology <sup>§</sup>	2	2		2,3
ELE2103 Linear Systems and Control	2	2		2
ELE2303 Embedded Systems Design	1	1		1
ELE2504 Electronic Design and Analysis	2	2		2
ELE2704 Electricity Supply Systems	2			2
ELE3105 Computer Controlled Systems	1	1		1

<a href="#">ELE3305 Computer Systems and Communications Protocols</a>	1	1		1
<a href="#">ELE3803 Electrical Plant</a>	1	1		1
<a href="#">ELE4804 Power Systems Protection</a>				1
<a href="#">ELE3805 Power Electronics Principles and Applications</a>	2	2		2
<a href="#">ELE4807 Power Systems Analysis</a>	1			1
<a href="#">MEC1201 Engineering Materials</a>	1,2	1,2		1,2,3
<a href="#">MEC2106 Introduction to Thermofluids</a>	2	2		2
<a href="#">MEC4104 Renewable Energy Technology</a>	2	2		2
Approved Courses (x5)				
<b>Practice Courses</b>				
<a href="#">ELE1911 Electrical and Electronic Practice A<sup>~‡</sup></a>	2	2	3	
<a href="#">ELE2912 Electrical and Electronic Practice B<sup>‡</sup></a>	1	1	3	
<a href="#">ELE2913 Electrical and Electronic Practice C</a>				2
<a href="#">ELE3914 Electrical and Electronic Practice D</a>	1	1	3	
<a href="#">ELE3915 Electrical and Electronic Practice E</a>	2	2	2	

#### Footnotes

- § Unavailable online in S3 2023  
~ Unavailable in On-Campus mode in S2 2023  
‡ Unavailable in External mode in S3 2023

## Electives/Approved courses

Appropriate approved courses in each major are shown in the tables in the Recommended Enrolment Pattern section. The Program Director may approve a variation in approved course studies where the student can demonstrate that there is a sound academic argument for the change. Arguments based on timetable difficulties, quota problems etc. will not normally be entertained. Note however that students who wish to enrol in a course other than those listed must obtain the written approval of the Program Director prior to enrolling in the course if they want the course to count as credit towards their award.

Students should note that quota restrictions may preclude their enrolment in particular approved courses as students enrolling in these courses as part of their core or major studies will be given enrolment priority.

## Practical experience

To be eligible to graduate from the Bachelor of Engineering (Honours), students must obtain an aggregate of at least 60 days of suitable work experience during their program. This experience may be in an engineering office or laboratory where the student would be working principally with professional engineers and engineering associates. It may, however, be preferable for students to spend some time in field or factory activities to gain insight into industrial practice and to see what is involved in converting designs into finished products. Students are required to enrol in [ENG4909 Work Experience - Professional](#) in the latter part of their program and keep a record of appropriate experience as specified in the Course Specification. The work experience is to be endorsed by an appropriate person in the organisation providing the experience and submitted to the examiner. The student must meet all costs associated with the acquisition of work experience to satisfy this requirement. The record of work experience must be made available for perusal by the Faculty of Health, Engineering and Sciences upon request. The acceptability or otherwise of employment experience, and the period of that type of experience that may be credited towards the 60 days, will be determined by the Examiner of [ENG4909 Work Experience - Professional](#).

Credit or exemptions for [ENG4909 Work Experience - Professional](#) will not normally be considered.



## IT requirements

For information technology requirements, please refer to the [minimum computing standards](#).

## Residential schools

The attendance requirement of residential schools within this degree is indicated by the following letters: R = Recommended; HR = Highly Recommended; M = Mandatory. To find out more about [residential schools](#), visit the [Residential School Schedule](#) to view specific dates for your degree, or visit the [Policy and Procedure Library](#).

Students are required to undertake practical and professional activities relevant to their program through enrolment in a series of **Practice courses** in the program. Practice courses are **zero** unit courses that may be undertaken in either on-campus or external mode and the final grades available are Pass (P)/Fail (F) only. They are a compulsory part of the program and do not attract a student contribution charge for Australian residents or a tuition fee for international students. The recommended enrolment schedule for Practice courses is shown in the Recommended Enrolment Pattern for the program in this Handbook.

External students must attend a number of **residential schools** during their program to obtain experience in practical and professional activities appropriate to the program. The residential schools are included in Practice courses which are conducted in Semester 3 or during the recess periods. The dates for each residential school Practice course are shown in the [Residential School Schedule](#) in this Handbook and external students should ensure they are able to attend the residential school prior to enrolling in a Practice course. Personal protective equipment is compulsory in many engineering, construction and spatial science laboratories, students should confirm the requirements before attending residential schools for Practice courses.

Students who enrol in on-campus mode for Practice courses normally undertake a series of weekly activities and/or attend a compulsory residential school.

[ENG3902 Professional Practice 1](#) and [ENG4110 Engineering Research Methodology](#) are to be studied in the student's penultimate year. Upon completion of [ENG3902 Professional Practice 1](#) and [ENG4110 Engineering Research Methodology](#), students must study [ENG4111 Research Project Part 1](#), [ENG4112 Research Project Part 2](#) and [ENG4903 Professional Practice 2](#) in the same academic year.

### Agricultural Engineering

- [ENG1901 Engineering Practice 1](#)
- [CIV2901 Geology and Geomechanics Practice](#)
- [ENV2902 Hydraulics Practice](#)
- [AGR3903 Soil and Water Engineering Practice 2](#)
- [AGR3905 Agricultural Engineering Practice](#)
- [ENG3902 Professional Practice 1](#)
- [ENG4903 Professional Practice 2](#)

### Civil Engineering

- [ENG1901 Engineering Practice 1](#)
- [CIV2901 Geology and Geomechanics Practice](#)
- [ENV2902 Hydraulics Practice](#)
- [CIV3906 Civil Materials Practice](#)
- [CIV3907 Civil Systems Practice](#)
- [CIV4908 Civil Design Practice](#)
- [ENG3902 Professional Practice 1](#)
- [ENG4903 Professional Practice 2](#)

### Computer Systems Engineering

- [ENG1901 Engineering Practice 1](#)
- [ELE1911 Electrical and Electronic Practice A](#)

- [ELE2912 Electrical and Electronic Practice B](#)
- [ELE2913 Electrical and Electronic Practice C](#)
- [ELE3914 Electrical and Electronic Practice D](#)
- [ELE3915 Electrical and Electronic Practice E](#)
- [ENG3902 Professional Practice 1](#)
- [ENG4903 Professional Practice 2](#)

#### Electrical and Electronic Engineering

- [ENG1901 Engineering Practice 1](#)
- [ELE1911 Electrical and Electronic Practice A](#)
- [ELE2912 Electrical and Electronic Practice B](#)
- [ELE3914 Electrical and Electronic Practice D](#)
- [ELE3915 Electrical and Electronic Practice E](#)
- [ENG3902 Professional Practice 1](#)
- [ENG4903 Professional Practice 2](#)
- [CHE1110 Chemistry 1 \(Elective\)](#)

#### Environmental Engineering

- [ENG1901 Engineering Practice 1](#)
- [CIV2901 Geology and Geomechanics Practice](#)
- [ENV2902 Hydraulics Practice](#)
- [AGR2902 Field Practice](#)
- [ENV3904 Environmental Engineering Practice](#)
- [AGR3903 Soil and Water Engineering Practice 2](#)
- [ENG3902 Professional Practice 1](#)
- [ENG4903 Professional Practice 2](#)
- [CHE1110 Chemistry 1 \(Elective\)](#)
- [CHE2120 Chemistry 2 \(Elective\)](#)

#### Instrumentation Control and Automation Engineering

- [ENG1901 Engineering Practice 1](#)
- [ELE1911 Electrical and Electronic Practice A](#)
- [ELE2912 Electrical and Electronic Practice B](#)
- [ELE2913 Electrical and Electronic Practice C](#)
- [ELE3914 Electrical and Electronic Practice D](#)
- [MEC3905 Mechatronic Practice](#)
- [ENG3902 Professional Practice 1](#)
- [ENG4903 Professional Practice 2](#)
- [CHE1110 Chemistry 1 \(Elective\)](#)

#### Mechanical Engineering

- [ENG1901 Engineering Practice 1](#)
- [MEC2901 Mechanical Practice 1](#)
- [MEC2902 Mechanical Practice 2](#)
- [MEC3903 Mechanical Practice 3](#)
- [MEC3904 Mechanical Practice 4](#)
- [ENG3902 Professional Practice 1](#)
- [ENG4903 Professional Practice 2](#)

#### Mechatronic Engineering

- [ENG1901 Engineering Practice 1](#)
- [ELE1911 Electrical and Electronic Practice A](#)

- [MEC2901 Mechanical Practice 1](#)
- [MEC2902 Mechanical Practice 2](#)
- [MEC3905 Mechatronic Practice](#)
- [ENG3902 Professional Practice 1](#)
- [ENG4903 Professional Practice 2](#)

### Power Engineering

- [ENG1901 Engineering Practice 1](#)
- [ELE1911 Electrical and Electronic Practice A](#)
- [ELE2912 Electrical and Electronic Practice B](#)
- [ELE2913 Electrical and Electronic Practice C](#)
- [ELE3914 Electrical and Electronic Practice D](#)
- [ELE3915 Electrical and Electronic Practice E](#)
- [ENG3902 Professional Practice 1](#)
- [ENG4903 Professional Practice 2](#)
- [CHE1110 Chemistry 1](#) (Elective)

### Related programs

Students may combine the Bachelor of Engineering (Honours) with a program from another area of study. Currently the following combined programs have been accredited by the University and Engineers Australia:

- [Bachelor of Engineering \(Honours\) Bachelor of Business](#)
- [Bachelor of Engineering \(Honours\) Bachelor of Information Technology](#)
- [Bachelor of Engineering \(Honours\) Bachelor of Science](#).

### Exit points

Students who, for whatever reason, are unable to complete the Bachelor of Engineering (Honours) and who satisfy all of the requirements of either the [Bachelor of Engineering Science](#), the [Associate Degree of Engineering](#) or the [Diploma of Engineering Studies](#) may be permitted to exit with that award.

### Credit

Exemptions/credit will be assessed based on the [UniSQ Credit and Exemption Procedure](#).

### Work Experience

Work and industrial experience that has not been formally assessed, does not normally qualify for course credit in the Bachelor of Engineering (Honours) program. Existing work experience may be used to satisfy the practical/work experience requirements when completing the [ENG4909 Work Experience - Professional practice course](#).

### Honours

The level of honours awarded will be determined based on the UniSQ procedure. Please refer to the [Class of Honours Standard Schedule](#).

### Agricultural Engineering major full-time recommended enrolment pattern

To satisfy the requirements of the program students must complete all of the Academic and Practice courses in the following table that shows the recommended enrolment patterns for on-campus and external students

for our Toowoomba campus. Students following a non-standard enrolment pattern should click on the course link in the table below to ascertain if a course is offered in another term.

Major study: Agricultural Engineering (Major Study Code: 16922)								
Course	Year of program and semester in which course is normally studied						Residential school	Enrolment requirements
	On-campus (ONC)		External (EXT)		Online (ONL)			
	Year	Sem	Year	Sem	Year	Sem		
Academic Courses Year 1								
ENG1002 Introduction to Engineering and Built Environment Applications	1	1				1,2		
ENM1600 Engineering Mathematics	1	1				1,2		Enrolment is not permitted in ENM1600 if MAT1102 or MAT1502 has been previously completed
ENG1004 Engineering Problem Solving Principles	1	1				1,2		
MEC1201 Engineering Materials	1	1				1,2,3		
ENG1100 Introduction to Engineering Design	1	2				1,2		
CIV1501 Engineering Statics	1	2				2,3		Pre-requisite: ENM1600 or (ENM1500 and CIV1500) or Students must be enrolled in one of the following Programs: MEPR or GCEN or GEPR
ENG2002 Technology, Sustainability and Society	1	2				1,2,3		
SVY1500 Spatial Science for Engineers	1	2				2		
Practice Courses Year 1								
ENG1901 Engineering Practice 1	1	1,2	1	2,3			M	
Academic Courses Year 2								
AGR2302 Agricultural Machinery	2	1				1		
ENM2600 Advanced Engineering Mathematics <sup>§</sup>	2	1				1,3		Pre-requisite: ENM1600 or Students must be enrolled in one of the following Programs: GCEN or METC or MENS or GDNS or MEPR or MSCN
ENV2103 Hydraulics I	2	1				1		Pre-requisite: CIV1500 or CIV1501 or Students must be enrolled in the following Program: GCEN or GEPR
MEC2402 Stress Analysis	2	1				1		Pre-requisite: CIV1501 or Students must be enrolled in one of the following Programs: GCEN or METC or MEPR or GCNS or GDNS or MENS or GEPR
ENG3104 Engineering Simulations and Computations	2	2				2		Pre-requisite: (ENM2600 or MAT2100 or MAT2500) or Students must be enrolled in one of the following Programs: GDET or METC or GDNS or MENS
AGR2301 Agricultural Science	2	2				2		
CIV2403 Geology and Geomechanics	2	2				2		Pre-requisite: CIV1501 or CIV1500 or Students must be enrolled in one of the following Programs: MENS or GCEN or GEPR
MEC2301 Design of Machine Elements	2	2				2		Pre-requisite: (MEC2402 and ENG1100) or Students must

Major study: Agricultural Engineering (Major Study Code: 16922)								
Course	Year of program and semester in which course is normally studied						Residential school	Enrolment requirements
	On-campus (ONC)		External (EXT)		Online (ONL)			
	Year	Sem	Year	Sem	Year	Sem		
								be enrolled in one of the following Programs: MEPR or GCEN or GEPR
Practice Courses Year 2								
CIV2901 Geology and Geomechanics Practice	2	2		2,3			M	Pre-requisite or Co-requisite: <a href="#">ENG1901</a> and <a href="#">CIV2403</a>
ENV2902 Hydraulics Practice	2	2		1,2,3			M	Pre-requisite or Co-requisite: <a href="#">ENV2103</a> or ENV1101
AGR2902 Field Practice <sup>^</sup>				3			M	
Academic Courses Year 3								
AGR3303 Agricultural Materials and Post-Harvest Technologies	3	1				1		
AGR3304 Soil Science	3	1				1		
ENV3104 Hydraulics II	3	1				1		Pre-requisite: ENV1101 or <a href="#">ENV2103</a> or Students must be enrolled in one of the following Programs: GCEN or METC or MEPR or GCNS or GDNS or MENS
MEC2401 Dynamics I	3	1				1		Pre-requisite: ((MAT1502 or <a href="#">MAT1102</a> or <a href="#">ENM1600</a> ) and <a href="#">CIV1501</a> ) or Students must be enrolled in one of the following Programs: GCEN or GCNS or METC or MEPR or MENS or GEPR
AGR3305 Precision and Smart Technologies in Agriculture	3	2				2		
Approved Course (Select from minor or approved course list)	3	2				2		
ENV3105 Hydrology	3	2				2		
ENG4110 Engineering Research Methodology	3	2				2		
Practice Courses Year 3								
AGR3903 Soil and Water Engineering Practice 2				2			M	
AGR3905 Agricultural Engineering Practice				3			M	
ENG3902 Professional Practice 1				2			M	Pre-requisite: Students must be enrolled in one of the following Programs: BCNH or BCON or BEBB or BEBC or BEHB or BEHI or BEHS or BENG or BENH or MENS
Academic Courses Year 4								
ENG3003 Engineering Management <sup>†</sup>	4	1				1,3		
AGR4305 Agricultural Soil Mechanics	4	1				1		
ENG4111 Research Project Part 1	4	1				1		Pre-requisite: <a href="#">ENG3902</a> and <a href="#">ENG4110</a> and Students must be enrolled in one of the following Programs: BCNH or BCON or BEBB or BEBC or BEHB or BEHI or BEHS or BENG or BENH Undergraduate students must have com

Major study: Agricultural Engineering (Major Study Code: 16922)								
Course	Year of program and semester in which course is normally studied						Residential school	Enrolment requirements
	On-campus (ONC)		External (EXT)		Online (ONL)			
	Year	Sem	Year	Sem	Year	Sem		
								pleted 22 units in their pro gram.
Approved Course (Select from minor or approved course list)	4	1				1		
ENV4106 Irrigation Science	4	2				2		Pre-requisite: AGR3304 or Students must be enrolled in one of the following Program s: GCEN or GCSC or GDSI or METC or MEPR or GCNS or GDNS or MENS or MSCN.
Approved Course (Select from minor or approved course list)	4	2				2		
ENG4112 Research Project Part 2	4	2				1,2		Pre-requisite: ENG4111 and Students must be enrolled in one of the following Program s: BCNH or BCON or BEBB or BEBC or BEHB or BEHI or BEHS or BENG or BENH
Approved Course (Select from minor or approved course list)	4	2				2		
Practice Courses Year 4								
ENG4903 Professional Practice 2	4	1		2			M	Pre-requisite: ENG3902 and Students must be enrolled in: BCNH or BCON or BEBB or BEBC or BEHB or BEHI or BEHS or BENG or BENH or MENS. Students cannot enrol in ENG3902 & ENG4903 in the same semester. Co-requi site: ENG4111 or ENG4112 or ENG8411 or ENG8412
ENG4909 Work Experience - Professional						1,2,3		
Select a minor study or approved courses from the following or other elective courses as approved by the Program Director								
CIV3403 Geotechnical Engineering		2				2		Pre-requisite: CIV2401 or CIV2403 or Students must be enrolled in one of the follow ing Programs: GCEN or METC or MEPR or GCNS or GDNS or MENS
ELE1301 Computer Engineering		1				1		
ELE2103 Linear Systems and Control		2				2,3		
ENG4004 Engineering Project and Operations Management <sup>‡</sup>		3				2,3		
MEC4406 Robotics and Machine Vision		2				2		Pre-requisite: MEC2401 or ELE2103 or Students must be enrolled in one of the fol lowing Programs: MENS or GCEN
ENV2201 Land Studies		1				1		
ENV4107 Water Resources Engineering		2				2		Pre-requisite: (ENV3104 and ENV3105) or Students must be enrolled in one of the fol lowing Programs: GCEN or

Major study: Agricultural Engineering (Major Study Code: 16922)								
Course	Year of program and semester in which course is normally studied						Residential school	Enrolment requirements
	On-campus (ONC)		External (EXT)		Online (ONL)			
	Year	Sem	Year	Sem	Year	Sem		
								METC or MEPR or GCNS or GDNS or MENS
ENV4203 Public Health Engineering		2				2		Pre-requisite: ENV1101 or ENV2103 or Students must be enrolled in one of the following Programs: GCEN or METC or MEPR or GCNS or GDNS or MENS
ENV4204 Environmental Technology <sup>@</sup>		1				1		Pre-requisite: ENV2105 or Students must be enrolled in one of the following Programs: PDEV or GCEN or METC or MEPR or GCNS or GDNS or MENS
GIS1402 Geographic Information Systems <sup>£</sup>		1				1,3		
MEC2202 Manufacturing Processes		1				1		Pre-requisite: MEC1201 or Students must be enrolled in one of the following Programs: MEPR or GCEN
MEC2406 Introduction to Mechatronics and Automation		2				2		
MEC3203 Materials Technology		1				1		Pre-requisite: MEC1201 or Students must be enrolled in one of the following Programs: GCEN or METC or GCNS or GDNS or MEPR or MENS
CLI2201 Climate Change and Variability						2		
MEC3303 Mechanical and Mechatronic System Design		2				2		Pre-requisite: MEC2301 or Students must be enrolled in one of the following Programs: GCEN or METC or GCNS or GDNS or MEPR or MENS
REN1201 Environmental Studies		1				1		Enrolment is not permitted in REN1201 if REN8101 has been previously completed.

#### Footnotes

- § Unavailable online in S3 2023
- ^ The residential school for this course may involve overnight field trips for which each student will be responsible for their own accommodation costs.
- † The semester 3 offering of this course is offered in odd numbered years only.
- ‡ The semester 3 offering of this course is offered in even numbered years only.
- @ Students who wish to enrol in ENV4204 Environmental Technology as an Approved course, should consult their Program Director.
- £ In Semester 3, 2023 this course will be delivered as a Transition (9 week) semester, commencing on 13 November 2023 and concluding on 12 January 2024

## Agricultural Engineering major part-time recommended enrolment pattern

Major study: Agricultural Engineering (Major Study Code: 16922)									
Course	Year of program and semester in which course is normally studied						Residential school	Enrolment requirements	
	On-campus (ONC)		External (EXT)		Online (ONL)				
	Year	Sem	Year	Sem	Year	Sem			
Year 1									
ENG1002 Introduction to Engineering and Built Environment Applications		1,2				1,2			

Major study: Agricultural Engineering (Major Study Code: 16922)								
Course	Year of program and semester in which course is normally studied						Residential school	Enrolment requirements
	On-campus (ONC)		External (EXT)		Online (ONL)			
	Year	Sem	Year	Sem	Year	Sem		
<a href="#">ENM1600 Engineering Mathematics</a>		1,2				1,2		Enrolment is not permitted in <a href="#">ENM1600</a> if <a href="#">MAT1102</a> or <a href="#">MAT1502</a> has been previously completed
<a href="#">ENG1100 Introduction to Engineering Design</a>		1,2				1,2		
<a href="#">CIV1501 Engineering Statics</a>		2				2,3		Pre-requisite: <a href="#">ENM1600</a> or ( <a href="#">ENM1500</a> and <a href="#">CIV1500</a> ) or Students must be enrolled in one of the following Programs: MEPR or GCEN or GEPR
Year 1 Practice Courses								
<a href="#">ENG1901 Engineering Practice 1</a>		1,2		2,3			M	
Year 2								
<a href="#">ENG1004 Engineering Problem Solving Principles</a>		1				1,2		
<a href="#">MEC1201 Engineering Materials</a>		1,2				1,2,3		
<a href="#">ENG2002 Technology, Sustainability and Society</a>		1,2				1,2,3		
<a href="#">SVY1500 Spatial Science for Engineers</a>		2				2		
Year 3								
<a href="#">AGR2302 Agricultural Machinery</a>		1				1		
<a href="#">ENM2600 Advanced Engineering Mathematics<sup>§</sup></a>		1				1,3		Pre-requisite: <a href="#">ENM1600</a> or Students must be enrolled in one of the following Programs: GCEN or METC or MENS or GDNS or MEPR or MSCN
<a href="#">AGR2301 Agricultural Science</a>		2				2		
<a href="#">ENG3104 Engineering Simulations and Computations</a>		2				2		Pre-requisite: ( <a href="#">ENM2600</a> or <a href="#">MAT2100</a> or <a href="#">MAT2500</a> ) or Students must be enrolled in one of the following Programs: GDET or METC or GDNS or MENS
Year 3 Practice Courses								
<a href="#">AGR2902 Field Practice<sup>^</sup></a>				3			M	
Year 4								
<a href="#">ENV2103 Hydraulics I</a>		1				1		Pre-requisite: <a href="#">CIV1500</a> or <a href="#">CIV1501</a> or Students must be enrolled in the following Program: GCEN or GEPR
<a href="#">MEC2402 Stress Analysis</a>		1				1		Pre-requisite: <a href="#">CIV1501</a> or Students must be enrolled in one of the following Programs: GCEN or METC or MEPR or GCNS or GDNS or MENS or GEPR
<a href="#">CIV2403 Geology and Geomechanics</a>		2				2		Pre-requisite: <a href="#">CIV1501</a> or <a href="#">CIV1500</a> or Students must be enrolled in one of the following Programs: MENS or GCEN or GEPR
<a href="#">MEC2301 Design of Machine Elements</a>		2				2		Pre-requisite: ( <a href="#">MEC2402</a> and <a href="#">ENG1100</a> ) or Students must



Major study: Agricultural Engineering (Major Study Code: 16922)								
Course	Year of program and semester in which course is normally studied						Residential school	Enrolment requirements
	On-campus (ONC)		External (EXT)		Online (ONL)			
	Year	Sem	Year	Sem	Year	Sem		
								be enrolled in one of the following Programs: MEPR or GCEN or GEPR
Year 4 Practice Courses								
<a href="#">CIV2901 Geology and Geomechanics Practice</a>		2		2,3			M	Pre-requisite or Co-requisite: <a href="#">ENG1901</a> and <a href="#">CIV2403</a>
<a href="#">ENV2902 Hydraulics Practice</a>		2		1,2,3			M	Pre-requisite or Co-requisite: <a href="#">ENV2103</a> or ENV1101
Year 5								
<a href="#">AGR3303 Agricultural Materials and Post-Harvest Technologies</a>		1				1		
<a href="#">AGR3304 Soil Science</a>		1				1		
Approved Course (Select from minor or approved course list)								
<a href="#">AGR3305 Precision and Smart Technologies in Agriculture</a>		2				2		
Year 6								
<a href="#">ENV3104 Hydraulics II</a>		1				1		Pre-requisite: ENV1101 or <a href="#">ENV2103</a> or Students must be enrolled in one of the following Programs: GCEN or METC or MEPR or GCNS or GDNS or MENS
<a href="#">MEC2401 Dynamics I</a>		1				1		Pre-requisite: (( <a href="#">MAT1502</a> or <a href="#">MAT1102</a> or <a href="#">ENM1600</a> ) and <a href="#">CIV1501</a> ) or Students must be enrolled in one of the following Programs: GCEN or GCNS or METC or MEPR or MENS or GEPR
<a href="#">ENV3105 Hydrology</a>		2				2		
Approved Course (Select from minor or approved course list)								
Year 6 Practice Courses								
<a href="#">AGR3903 Soil and Water Engineering Practice 2</a>				2			M	
<a href="#">AGR3905 Agricultural Engineering Practice</a>				3			M	
Year 7								
<a href="#">ENG3003 Engineering Management<sup>†</sup></a>		1,3				1,3		
<a href="#">AGR4305 Agricultural Soil Mechanics</a>		1				1		
<a href="#">ENG4110 Engineering Research Methodology</a>		2				2		
<a href="#">ENV4106 Irrigation Science</a>		2				2		Pre-requisite: <a href="#">AGR3304</a> or Students must be enrolled in one of the following Programs: GCEN or GCSC or GDSI or METC or MEPR or GCNS or GDNS or MENS or MSCN.
Year 7 Practice Courses								
<a href="#">ENG3902 Professional Practice 1</a>				2			M	Pre-requisite: Students must be enrolled in one of the following Programs: BCNH or

Major study: Agricultural Engineering (Major Study Code: 16922)								
Course	Year of program and semester in which course is normally studied						Residential school	Enrolment requirements
	On-campus (ONC)		External (EXT)		Online (ONL)			
	Year	Sem	Year	Sem	Year	Sem		
								BCON or BEBB or BEBC or BEHB or BEHI or BEHS or BENG or BENH or MENS
Year 8								
ENG4111 Research Project Part 1		1				1		Pre-requisite: <a href="#">ENG3902</a> and <a href="#">ENG4110</a> and Students must be enrolled in one of the following Programs: BCNH or BCON or BEBB or BEBC or BEHB or BEHI or BEHS or BENG or BENH Undergraduate students must have completed 22 units in their program.
Approved Course (Select from minor or approved course list)								
ENG4112 Research Project Part 2		1,2				1,2		Pre-requisite: <a href="#">ENG4111</a> and Students must be enrolled in one of the following Programs: BCNH or BCON or BEBB or BEBC or BEHB or BEHI or BEHS or BENG or BENH
Approved Course (Select from minor or approved course list)								
Year 8 Practice Courses								
ENG4903 Professional Practice 2		1		2			M	Pre-requisite: <a href="#">ENG3902</a> and Students must be enrolled in: BCNH or BCON or BEBB or BEBC or BEHB or BEHI or BEHS or BENG or BENH or MENS. Students cannot enrol in <a href="#">ENG3902</a> & <a href="#">ENG4903</a> in the same semester. Co-requisite: <a href="#">ENG4111</a> or <a href="#">ENG4112</a> or <a href="#">ENG8411</a> or <a href="#">ENG8412</a>
ENG4909 Work Experience - Professional						1,2,3		
Select a minor study or approved courses from the following or other elective courses as approved by the Program Director								
CIV3403 Geotechnical Engineering		2				2		Pre-requisite: CIV2401 or <a href="#">CIV2403</a> or Students must be enrolled in one of the following Programs: GCEN or METC or MEPR or GCNS or GDNS or MENS
ELE1301 Computer Engineering		1				1		
ELE2103 Linear Systems and Control		2				2		
ENG4004 Engineering Project and Operations Management <sup>†</sup>		3				2,3		
MEC4406 Robotics and Machine Vision		2				2		Pre-requisite: <a href="#">MEC2401</a> or <a href="#">ELE2103</a> or Students must be enrolled in one of the following Programs: MENS or GCEN

Major study: Agricultural Engineering (Major Study Code: 16922)								
Course	Year of program and semester in which course is normally studied						Residential school	Enrolment requirements
	On-campus (ONC)		External (EXT)		Online (ONL)			
	Year	Sem	Year	Sem	Year	Sem		
<a href="#">ENV2201 Land Studies</a>		1				1		
<a href="#">ENV4107 Water Resources Engineering</a>		2				2		Pre-requisite: ( <a href="#">ENV3104</a> and <a href="#">ENV3105</a> ) or Students must be enrolled in one of the following Programs: GCEN or METC or MEPR or GCNS or GDNS or MENS
<a href="#">ENV4203 Public Health Engineering</a>		2				2		Pre-requisite: ENV1101 or <a href="#">ENV2103</a> or Students must be enrolled in one of the following Programs: GCEN or METC or MEPR or GCNS or GDNS or MENS
<a href="#">ENV4204 Environmental Technology</a> <sup>@</sup>		1				1		Pre-requisite: <a href="#">ENV2105</a> or Students must be enrolled in one of the following Programs: PDEV or GCEN or METC or MEPR or GCNS or GDNS or MENS
<a href="#">GIS1402 Geographic Information Systems</a> <sup>£</sup>		1				1,3		
<a href="#">MEC2202 Manufacturing Processes</a>		1				1		Pre-requisite: <a href="#">MEC1201</a> or Students must be enrolled in one of the following Programs: MEPR or GCEN
<a href="#">MEC2406 Introduction to Mechatronics and Automation</a>		2				2		
<a href="#">MEC3203 Materials Technology</a>		1				1		Pre-requisite: <a href="#">MEC1201</a> or Students must be enrolled in one of the following Programs: GCEN or METC or GCNS or GDNS or MEPR or MENS
<a href="#">CLI2201 Climate Change and Variability</a>						2		
<a href="#">MEC3303 Mechanical and Mechatronic System Design</a>		2				2		Pre-requisite: <a href="#">MEC2301</a> or Students must be enrolled in one of the following Programs: GCEN or METC or GCNS or GDNS or MEPR or MENS
<a href="#">REN1201 Environmental Studies</a>		1				1		Enrolment is not permitted in <a href="#">REN1201</a> if <a href="#">REN8101</a> has been previously completed.

#### Footnotes

- § Unavailable online in S3 2023
- ^ The residential school for this course may involve overnight field trips for which each student will be responsible for their own accommodation costs.
- † The semester 3 offering of this course is offered in odd numbered years only.
- ‡ The semester 3 offering of this course is offered in even numbered years only.
- @ Students who wish to enrol in ENV4204 Environmental Technology as an Approved course, should consult their Program Director.
- £ In Semester 3, 2023 this course will be delivered as a Transition (9 week) semester, commencing on 13 November 2023 and concluding on 12 January 2024

## Civil Engineering major full-time recommended enrolment pattern (Toowoomba and Springfield campus)

To satisfy the requirements of the program students must complete all of the Academic and Practice courses in the following table that shows the recommended enrolment patterns for on-campus and external students for our Toowoomba campus. Students following a non-standard enrolment pattern should click on the course link in the table below to ascertain if a course is offered in another term.

Approved courses are included in the list of Academic courses. Students should select these courses from the approved courses listing.

Major study: Civil Engineering (Major Study Code: 16923)								
Course	Year of program and semester in which course is normally studied						Residential school	Enrolment requirements
	On-campus (ONC)		External (EXT)		Online (ONL)			
	Year	Sem	Year	Sem	Year	Sem		
Academic Courses Year 1								
ENG1002 Introduction to Engineering and Built Environment Applications	1	1				1,2		
ENM1600 Engineering Mathematics	1	1				1,2		Enrolment is not permitted in ENM1600 if MAT1102 or MAT1502 has been previously completed
ENG1004 Engineering Problem Solving Principles	1	1				1,2		
MEC1201 Engineering Materials	1	1				1,2,3		
ENG1100 Introduction to Engineering Design	1	2				1,2		
CIV1501 Engineering Statics	1	2				2,3		Pre-requisite: ENM1600 or (ENM1500 and CIV1500) or Students must be enrolled in one of the following Program s: MEPR or GCEN or GEPR
ENG2002 Technology, Sustainability and Society	1	2				1,2,3		
SVY1500 Spatial Science for Engineers	1	2				2		
Practice Courses Year 1								
ENG1901 Engineering Practice 1	1	1,2		2,3			M	
Academic Courses Year 2								
ENM2600 Advanced Engineering Mathematics <sup>§</sup>	2	1				1,3		Pre-requisite: ENM1600 or Students must be enrolled in one of the following Program s: GCEN or METC or MENS or GDNS or MEPR or MSCN
ENV2103 Hydraulics I	2	1				1		Pre-requisite: CIV1500 or CIV1501 or Students must be enrolled in the following Program: GCEN or GEPR
MEC2402 Stress Analysis	2	1				1		Pre-requisite: CIV1501 or S tudents must be enrolled in one of the following Program s: GCEN or METC or MEPR or GCNS or GDNS or MENS or GEPR
CIV2605 Construction Engineering	2	1				1		
Approved Course (Select from minor or approved course list)	2	2				1		
ENG3104 Engineering Simulations and Computations	2	2				2		Pre-requisite: (ENM2600 or MAT2100 or MAT2500) or S tudents must be enrolled in one of the following Program s: GDET or METC or GDNS or MENS
CIV2403 Geology and Geomechanics	2	2				2		Pre-requisite: CIV1501 or CIV1500 or Students must be enrolled in one of the follow ing Programs: MENS or G CEN or GEPR

Major study: Civil Engineering (Major Study Code: 16923)								
Course	Year of program and semester in which course is normally studied						Residential school	Enrolment requirements
	On-campus (ONC)		External (EXT)		Online (ONL)			
	Year	Sem	Year	Sem	Year	Sem		
<a href="#">CIV2503 Structural Design I</a>	2	2				2		Pre-requisite: ( <a href="#">ENG1100</a> and <a href="#">MEC2402</a> ) or ( <a href="#">ENG1100</a> and <a href="#">CIV1501</a> for students enrolled in one of the following: BETC Infrastructure Management major or BENS Infrastructure Management Engineering major) or Students must be enrolled in: GCEN or GEPR
Practice Courses Year 2								
<a href="#">CIV2901 Geology and Geomechanics Practice</a>	2	2		2,3			M	Pre-requisite or Co-requisite: <a href="#">ENG1901</a> and <a href="#">CIV2403</a>
<a href="#">ENV2902 Hydraulics Practice</a>	2	2		1,2,3			M	Pre-requisite or Co-requisite: <a href="#">ENV2103</a> or ENV1101
Academic Courses Year 3								
<a href="#">ENV3104 Hydraulics II</a>	3	1				1		Pre-requisite: ENV1101 or <a href="#">ENV2103</a> or Students must be enrolled in one of the following Programs: GCEN or METC or MEPR or GCNS or GDNS or MENS
<a href="#">CIV4505 Structural Analysis</a>	3	1				1		Pre-requisite: <a href="#">MEC2402</a> and (MAT1502 or <a href="#">ENM1600</a> or <a href="#">MAT1102</a> ) or Students must be enrolled in one of the following Programs: GCEN or METC or MEPR or GCNS or GDNS or MENS or GEPR
<a href="#">CIV4506 Concrete Structures</a>	3	1				1		Pre-requisite: <a href="#">CIV2503</a> or Students must be enrolled in one of the following Programs: GCEN or METC or MEPR or GCNS or GDNS or MENS
<a href="#">ENG3003 Engineering Management</a> <sup>†</sup>	3	1				1,3		
<a href="#">CIV3403 Geotechnical Engineering</a>	3	2				2		Pre-requisite: CIV2401 or <a href="#">CIV2403</a> or Students must be enrolled in one of the following Programs: GCEN or METC or MEPR or GCNS or GDNS or MENS
<a href="#">ENV3105 Hydrology</a>	3	2				2		
<a href="#">CIV3703 Transport Engineering</a>	3	2				2		
<a href="#">ENG4110 Engineering Research Methodology</a>	3	2				2		
Practice Courses Year 3								
<a href="#">CIV3906 Civil Materials Practice</a>	3	1		3			M	Pre-requisite: <a href="#">MEC1201</a> and <a href="#">ENG1901</a> or Students must be enrolled in one of the following programs: ADCN or BCON or BCNH
<a href="#">CIV3907 Civil Systems Practice</a>			3	3			M	Pre-requisite: <a href="#">CIV2503</a> or Students must be enrolled in one of the following Programs: MENS or MEPR

Major study: Civil Engineering (Major Study Code: 16923)								
Course	Year of program and semester in which course is normally studied						Residential school	Enrolment requirements
	On-campus (ONC)		External (EXT)		Online (ONL)			
	Year	Sem	Year	Sem	Year	Sem		
<a href="#">ENG3902 Professional Practice 1</a>				2			M	Pre-requisite: Students must be enrolled in one of the following Programs: BCNH or BCON or BEBB or BEBC or BEHB or BEHI or BEHS or BENG or BENH or MENS
Academic Courses Year 4								
<a href="#">CIV4508 Structural Design II</a>	4	1				1		Pre-requisite: (CIV3505 or <a href="#">CIV4505</a> ) and (CIV3506 or <a href="#">CIV4506</a> ) or Students must be enrolled in one of the following Programs: GCEN or METC or MEPR or GCNS or GDNS or MENS
Approved Courses (Select from minor or approved course list)	4	1				1		
<a href="#">ENG4111 Research Project Part 1</a>	4	1				1		Pre-requisite: <a href="#">ENG3902</a> and <a href="#">ENG4110</a> and Students must be enrolled in one of the following Programs: BCNH or BCON or BEBB or BEBC or BEHB or BEHI or BEHS or BENG or BENH Undergraduate students must have completed 22 units in their program.
Approved Courses (Select from minor or approved course list)	4	1				1		
Approved Courses (Select from minor or approved course list)	4	2				2		
<a href="#">ENV4203 Public Health Engineering</a>	4	2				2		Pre-requisite: ENV1101 or <a href="#">ENV2103</a> or Students must be enrolled in one of the following Programs: GCEN or METC or MEPR or GCNS or GDNS or MENS
<a href="#">ENG4112 Research Project Part 2</a>	4	2				1,2		Pre-requisite: <a href="#">ENG4111</a> and Students must be enrolled in one of the following Programs: BCNH or BCON or BEBB or BEBC or BEHB or BEHI or BEHS or BENG or BENH
Approved Course (Select from minor or approved course list)	4	2				2		
Practice Courses Year 4								
<a href="#">CIV4908 Civil Design Practice</a>				1,2			M	Co-requisite: <a href="#">CIV4508</a> or Students must be enrolled in the following Program: MEPR or MENS
<a href="#">ENG4903 Professional Practice 2</a>	4	1		2			M	Pre-requisite: <a href="#">ENG3902</a> and Students must be enrolled in: BCNH or BCON or BEBB or BEBC or BEHB or BEHI or BEHS or BENG or BENH or MENS. Students cannot enrol

Major study: Civil Engineering (Major Study Code: 16923)								
Course	Year of program and semester in which course is normally studied						Residential school	Enrolment requirements
	On-campus (ONC)		External (EXT)		Online (ONL)			
	Year	Sem	Year	Sem	Year	Sem		
								in <a href="#">ENG3902</a> & <a href="#">ENG4903</a> in the same semester. Co-requisite: <a href="#">ENG4111</a> or <a href="#">ENG4112</a> or <a href="#">ENG8411</a> or <a href="#">ENG8412</a>
<a href="#">ENG4909 Work Experience - Professional</a>						1,2,3		
<b>Select a minor study or approved courses from the following or other elective courses as approved by the Program Director</b>								
<a href="#">AGR3304 Soil Science</a>		1				1		
<a href="#">CIV3603 Construction Methods</a>						2		
<a href="#">CIV5704 Road and Street Engineering</a>						2		
<a href="#">CIV5705 Pavement Design and Analysis</a>						1		Pre-requisite: <a href="#">CIV3703</a> or Students must be enrolled in one of the following Programs: GCNS or GDNS or MENS or PGCN or GCAE or MEPR
<a href="#">MEC5100 Computational Fluid Dynamics</a>						1		Pre-requisite: <a href="#">MEC3107</a> or <a href="#">MEC3102</a> or <a href="#">MEC4108</a> or <a href="#">MEC5107</a> or <a href="#">ENV3104</a> or <a href="#">ENV5104</a> or Students must be enrolled in the following Program: MEPR
<a href="#">ENG4004 Engineering Project and Operations Management<sup>‡</sup></a>		3				2,3		
<a href="#">ENV2201 Land Studies</a>		1				1		
<a href="#">ENV4107 Water Resources Engineering</a>		2				2		Pre-requisite: ( <a href="#">ENV3104</a> and <a href="#">ENV3105</a> ) or Students must be enrolled in one of the following Programs: GCEN or METC or MEPR or GCNS or GDNS or MENS
<a href="#">ENV4204 Environmental Technology<sup>@</sup></a>		1				1		Pre-requisite: <a href="#">ENV2105</a> or Students must be enrolled in one of the following Programs: PDEV or GCEN or METC or MEPR or GCNS or GDNS or MENS
<a href="#">GIS1402 Geographic Information Systems<sup>£</sup></a>		1				1,3		
<a href="#">MEC2401 Dynamics I</a>		1				1		Pre-requisite: (( <a href="#">MAT1502</a> or <a href="#">MAT1102</a> or <a href="#">ENM1600</a> ) and <a href="#">CIV1501</a> ) or Students must be enrolled in one of the following Programs: GCEN or GCNS or METC or MEPR or MENS or GEPR
<a href="#">SVY1104 Survey Computations A</a>		2				2		Pre-requisite: <a href="#">SVY1102</a> or <a href="#">SVY1500</a> or Students must be enrolled in one of the following Programs: GCST or GDST or MSPT
<a href="#">URP3201 Sustainable Urban Design and Development</a>		2				2		
<a href="#">URP1001 Introduction to Urban and Regional Planning</a>		1				1		

#### Footnotes

§ Unavailable online in S3 2023

† The semester 3 offering of this course is offered in odd numbered years only.

‡ The semester 3 offering of this course is offered in even numbered years only.

@ Students who wish to enrol in ENV4204 Environmental Technology as an Approved course, should consult their Program Director.

£ In Semester 3, 2023 this course will be delivered as a Transition (9 week) semester, commencing on 13 November 2023 and concluding on 12 January 2024

## Civil Engineering major part-time recommended enrolment pattern (Toowoomba and Springfield campus)

Major study: Civil Engineering (Major Study Code: 16923)								
Course	Year of program and semester in which course is normally studied						Residential school	Enrolment requirements
	On-campus (ONC)		External (EXT)		Online (ONL)			
	Year	Sem	Year	Sem	Year	Sem		
Year 1								
ENG1002 Introduction to Engineering and Built Environment Applications		1,2				1,2		
ENM1600 Engineering Mathematics		1,2				1,2		Enrolment is not permitted in ENM1600 if MAT1102 or MAT1502 has been previously completed
ENG1100 Introduction to Engineering Design		1,2				1,2		
CIV1501 Engineering Statics		2				2,3		Pre-requisite: ENM1600 or (ENM1500 and CIV1500) or Students must be enrolled in one of the following Program s: MEPR or GCEN or GEPR
Year 2								
ENG1004 Engineering Problem Solving Principles		1				1,2		
MEC1201 Engineering Materials		1,2				1,2,3		
ENG2002 Technology, Sustainability and Society		1,2				1,2,3		
SVY1500 Spatial Science for Engineers		2				2		
Year 2 Practice Courses								
ENG1901 Engineering Practice 1		1,2		2,3			M	
Year 3								
ENM2600 Advanced Engineering Mathematics <sup>§</sup>		1				1,3		Pre-requisite: ENM1600 or Students must be enrolled in one of the following Program s: GCEN or METC or MENS or GDNS or MEPR or MSCN
ENV2103 Hydraulics I		1				1		Pre-requisite: CIV1500 or CIV1501 or Students must be enrolled in the following Program: GCEN or GEPR
Approved Course (Select from minor or approved course list)								
ENG3104 Engineering Simulations and Computations		2				2		Pre-requisite: (ENM2600 or MAT2100 or MAT2500) or Students must be enrolled in one of the following Program s: GDET or METC or GDNS or MENS
Year 3 Practice Courses								
ENV2902 Hydraulics Practice		2		1,2,3			M	Pre-requisite or Co-requisite: ENV2103 or ENV1101



Major study: Civil Engineering (Major Study Code: 16923)									
Course	Year of program and semester in which course is normally studied						Residential school	Enrolment requirements	
	On-campus (ONC)		External (EXT)		Online (ONL)				
	Year	Sem	Year	Sem	Year	Sem			
Year 4									
<a href="#">MEC2402 Stress Analysis</a>		1				1		Pre-requisite: <a href="#">CIV1501</a> or S tudents must be enrolled in one of the following Program s: GCEN or METC or MEPR or GCNS or GDNS or MENS or GEPR	
<a href="#">CIV2605 Construction Engineering</a>		1				1			
<a href="#">CIV2403 Geology and Geomechanics</a>		2				2		Pre-requisite: <a href="#">CIV1501</a> or <a href="#">CIV1500</a> or Students must be enrolled in one of the follow ing Programs: MENS or G CEN or GEPR	
<a href="#">CIV2503 Structural Design I</a>		2				2		Pre-requisite: ( <a href="#">ENG1100</a> and <a href="#">MEC2402</a> ) or ( <a href="#">ENG1100</a> and <a href="#">CIV1501</a> for students enrolled in one of the following: BETC Infrastructure Management major or BENS Infrastructure Management Engineering major) or Students must be enrolled in: GCEN or GEPR	
Year 4 Practice Courses									
<a href="#">CIV2901 Geology and Geomechanics Practice</a>		2		2,3			M	Pre-requisite or Co-requisite: <a href="#">ENG1901</a> and <a href="#">CIV2403</a>	
Year 5									
<a href="#">ENV3104 Hydraulics II</a>		1				1		Pre-requisite: ENV1101 or <a href="#">ENV2103</a> or Students must be enrolled in one of the fol lowing Programs: GCEN or METC or MEPR or GCNS or GDNS or MENS	
<a href="#">CIV4505 Structural Analysis</a>		1				1		Pre-requisite: <a href="#">MEC2402</a> and (MAT1502 or <a href="#">ENM1600</a> or <a href="#">MAT1102</a> ) or Students must be enrolled in one of the fol lowing Programs: GCEN or METC or MEPR or GCNS or GDNS or MENS or GEPR	
<a href="#">CIV3403 Geotechnical Engineering</a>		2				2		Pre-requisite: CIV2401 or <a href="#">CIV2403</a> or Students must be enrolled in one of the follow ing Programs: GCEN or METC or MEPR or GCNS or GDNS or MENS	
<a href="#">ENV3105 Hydrology</a>		2				2			
Year 5 Practice Courses									
<a href="#">CIV3906 Civil Materials Practice</a>		1		3			M	Pre-requisite: <a href="#">MEC1201</a> and <a href="#">ENG1901</a> or Students must be enrolled in one of the fol lowing programs: ADCN or BCON or BCNH	

Major study: Civil Engineering (Major Study Code: 16923)								
Course	Year of program and semester in which course is normally studied						Residential school	Enrolment requirements
	On-campus (ONC)		External (EXT)		Online (ONL)			
	Year	Sem	Year	Sem	Year	Sem		
Year 6								
<a href="#">CIV4506 Concrete Structures</a>		1				1		Pre-requisite: <a href="#">CIV2503</a> or Students must be enrolled in one of the following Programs: GCEN or METC or MEPR or GCNS or GDNS or MENS
<a href="#">ENG3003 Engineering Management</a> <sup>†</sup>		1,3				1,3		
<a href="#">CIV3703 Transport Engineering</a>		2				2		
Approved Course (Select from minor or approved course list)								
Year 6 Practice Courses								
<a href="#">CIV3907 Civil Systems Practice</a>				3			M	Pre-requisite: <a href="#">CIV2503</a> or Students must be enrolled in one of the following Programs: MENS or MEPR
Year 7								
<a href="#">CIV4508 Structural Design II</a>		1				1		Pre-requisite: (CIV3505 or <a href="#">CIV4505</a> ) and (CIV3506 or <a href="#">CIV4506</a> ) or Students must be enrolled in one of the following Programs: GCEN or METC or MEPR or GCNS or GDNS or MENS
Approved Course (Select from minor or approved course list)								
<a href="#">ENG4110 Engineering Research Methodology</a>		2				2		
<a href="#">ENV4203 Public Health Engineering</a>		2				2		Pre-requisite: ENV1101 or <a href="#">ENV2103</a> or Students must be enrolled in one of the following Programs: GCEN or METC or MEPR or GCNS or GDNS or MENS
Year 7 Practice Courses								
<a href="#">ENG3902 Professional Practice 1</a>				2			M	Pre-requisite: Students must be enrolled in one of the following Programs: BCNH or BCON or BEBB or BEBC or BEHB or BEHI or BEHS or BENG or BENH or MENS
Year 8								
<a href="#">ENG4111 Research Project Part 1</a>		1				1		Pre-requisite: <a href="#">ENG3902</a> and <a href="#">ENG4110</a> and Students must be enrolled in one of the following Programs: BCNH or BCON or BEBB or BEBC or BEHB or BEHI or BEHS or BENG or BENH Undergraduate students must have completed 22 units in their program.
Approved Course (Select from minor or approved course list)								

Major study: Civil Engineering (Major Study Code: 16923)								
Course	Year of program and semester in which course is normally studied						Residential school	Enrolment requirements
	On-campus (ONC)		External (EXT)		Online (ONL)			
	Year	Sem	Year	Sem	Year	Sem		
ENG4112 Research Project Part 2		1,2				1,2		Pre-requisite: <a href="#">ENG4111</a> and Students must be enrolled in one of the following Programs: BCNH or BCON or BEBB or BEBC or BEHB or BEHI or BEHS or BENG or BENH
Approved Course (Select from minor or approved course list)								
Year 8 Practice Courses								
CIV4908 Civil Design Practice				1,2			M	Co-requisite: <a href="#">CIV4508</a> or Students must be enrolled in the following Program: MEPR or MENS
ENG4903 Professional Practice 2		1		2			M	Pre-requisite: <a href="#">ENG3902</a> and Students must be enrolled in: BCNH or BCON or BEBB or BEBC or BEHB or BEHI or BEHS or BENG or BENH or MENS. Students cannot enrol in <a href="#">ENG3902</a> & <a href="#">ENG4903</a> in the same semester. Co-requisite: <a href="#">ENG4111</a> or <a href="#">ENG4112</a> or <a href="#">ENG8411</a> or <a href="#">ENG8412</a>
ENG4909 Work Experience - Professional						1,2,3		
Select a minor study or approved courses from the following or other elective courses as approved by the Program Director								
<a href="#">AGR3304 Soil Science</a>		1				1		
<a href="#">CIV3603 Construction Methods</a>						2		
<a href="#">CIV4803 Mechanics and Technology of Fibre Composites</a>						1		Pre-requisite: CIV3506 or <a href="#">CIV4506</a> or ( <a href="#">MEC2402</a> and <a href="#">MEC3203</a> )
<a href="#">CIV5704 Road and Street Engineering</a>						2		
<a href="#">CIV5705 Pavement Design and Analysis</a>						1		Pre-requisite: <a href="#">CIV3703</a> or Students must be enrolled in one of the following Programs: GCNS or GDNS or MENS or PGCN or GCAE or MEPR
<a href="#">MEC5100 Computational Fluid Dynamics</a>						1		Pre-requisite: <a href="#">MEC3107</a> or <a href="#">MEC3102</a> or <a href="#">MEC4108</a> or <a href="#">MEC5107</a> or <a href="#">ENV3104</a> or <a href="#">ENV5104</a> or Students must be enrolled in the following Program: MEPR
<a href="#">ENG4004 Engineering Project and Operations Management<sup>†</sup></a>		3				2,3		
<a href="#">ENV2201 Land Studies</a>		1				1		
<a href="#">ENV4107 Water Resources Engineering</a>		2				2		Pre-requisite: ( <a href="#">ENV3104</a> and <a href="#">ENV3105</a> ) or Students must be enrolled in one of the following Programs: GCEN or METC or MEPR or GCNS or GDNS or MENS
<a href="#">ENV4204 Environmental Technology<sup>@</sup></a>		1				1		Pre-requisite: <a href="#">ENV2105</a> or Students must be enrolled in

Major study: Civil Engineering (Major Study Code: 16923)								
Course	Year of program and semester in which course is normally studied						Residential school	Enrolment requirements
	On-campus (ONC)		External (EXT)		Online (ONL)			
	Year	Sem	Year	Sem	Year	Sem		
								one of the following Program s: PDEV or GCEN or METC or MEPR or GCNS or GDNS or MENS
<a href="#">GIS1402 Geographic Information Systems</a> <sup>£</sup>		1				1,3		
<a href="#">MEC2401 Dynamics I</a>		1				1		Pre-requisite: ((MAT1502 or <a href="#">MAT1102</a> or <a href="#">ENM1600</a> ) and <a href="#">CIV1501</a> ) or Students must be enrolled in one of the following Programs: GCEN or GCNS or METC or MEPR or MENS or GEPR
<a href="#">SVY1104 Survey Computations A</a>		2				2		Pre-requisite: <a href="#">SVY1102</a> or <a href="#">SVY1500</a> or Students must be enrolled in one of the following Programs: GCST or GDST or MSPT
<a href="#">URP3201 Sustainable Urban Design and Development</a>		2				2		
<a href="#">URP1001 Introduction to Urban and Regional Planning</a>		1				1		

#### Footnotes

- § Unavailable online in S3 2023  
† The semester 3 offering of this course is offered in odd numbered years only.  
‡ The semester 3 offering of this course is offered in even numbered years only.  
@ Students who wish to enrol in ENV4204 Environmental Technology as an Approved course, should consult their Program Director.  
£ In Semester 3, 2023 this course will be delivered as a Transition (9 week) semester, commencing on 13 November 2023 and concluding on 12 January 2024

## Computer Systems Engineering major full-time recommended enrolment pattern

To satisfy the requirements of the program students must complete all of the Academic and Practice courses in the following table that shows the recommended enrolment patterns for on-campus and external students for our Toowoomba campus. Students following a non-standard enrolment pattern should click on the course link in the table below to ascertain if a course is offered in another term.

Major study: Computer Systems Engineering (Major Study Code: 16924)									
Course	Year of program and semester in which course is normally studied						Residential school	Enrolment requirements	
	On-campus (ONC)		External (EXT)		Online (ONL)				
	Year	Sem	Year	Sem	Year	Sem			
Academic Courses Year 1									
ENM1600 Engineering Mathematics	1	1				1,2		Enrolment is not permitted in ENM1600 if MAT1102 or MAT1502 has been previously completed	
ENG1004 Engineering Problem Solving Principles	1	1				1,2			
ELE1301 Computer Engineering	1	1				1			
ELE1502 Electronic Circuits	1	1				1			
ENG1002 Introduction to Engineering and Built Environment Applications	1	2				1,2			
CSC1401 Foundation Programming <sup>£</sup>	1	2				1,2,3			
ELE1801 Electrical Technology <sup>§</sup>	1	2				2,3		Pre-requisite: ENM1500 or ENM1600 or Students must be enrolled in one of the fol	

Major study: Computer Systems Engineering (Major Study Code: 16924)								
Course	Year of program and semester in which course is normally studied						Residential school	Enrolment requirements
	On-campus (ONC)		External (EXT)		Online (ONL)			
	Year	Sem	Year	Sem	Year	Sem		
								lowing Programs: MEPR or GCEN or GEPR
<a href="#">ENG1100 Introduction to Engineering Design</a>	1	2				1,2		
<b>Practice Courses Year 1</b>								
<a href="#">ENG1901 Engineering Practice 1</a>	1	1,2		2,3			M	
<a href="#">ELE1911 Electrical and Electronic Practice A</a> ~#	1	2		3			M	
<b>Academic Courses Year 2</b>								
<a href="#">ENM2600 Advanced Engineering Mathematics</a> §	2	1				1,3		Pre-requisite: <a href="#">ENM1600</a> or Students must be enrolled in one of the following Program s: GCEN or METC or MENS or GDNS or MEPR or MSCN
<a href="#">ELE2303 Embedded Systems Design</a>	2	1				1		Pre-requisite: <a href="#">ELE1301</a>
<a href="#">CSC2402 Object-Oriented Programming in C++</a>	2	1				1		Pre-requisite: <a href="#">CSC1401</a> or Students must be enrolled in one of the following Program s: GDTI or GCSC or GCEN or METC or MCOT or MCTE or MCOP or MPIT or MCTN
<a href="#">MAT1101 Discrete Mathematics for Computing</a>	2	1				1		
<a href="#">ELE2103 Linear Systems and Control</a>	2	2				2		
<a href="#">ENG2002 Technology, Sustainability and Society</a>	2	2				1,2,3		
<a href="#">ENG3104 Engineering Simulations and Computations</a>	2	2				2		Pre-requisite: ( <a href="#">ENM2600</a> or <a href="#">MAT2100</a> or <a href="#">MAT2500</a> ) or S tudents must be enrolled in one of the following Program s: GDET or METC or GDNS or MENS
Approved Course (Select from minor or approved course list)	2	2				2		
<b>Practice Courses Year 2</b>								
<a href="#">ELE2912 Electrical and Electronic Practice B</a> #	2	1		3			M	Pre-requisite: ( <a href="#">ELE1301</a> and <a href="#">ELE1502</a> and <a href="#">ELE1801</a> ) or Students must be enrolled in one of the following Program s: GDNS or MENS
<a href="#">ELE2913 Electrical and Electronic Practice C</a>						2		Pre-requisite: ( <a href="#">ELE1301</a> and <a href="#">ELE1502</a> and <a href="#">ELE1801</a> ) or Students must be enrolled in one of the following Program s: GDNS or MENS
<b>Academic Courses Year 3</b>								
<a href="#">ELE2601 Telecommunications Principles</a>	3	1				1		Pre-requisite: ( <a href="#">ELE1502</a> and <a href="#">ELE1801</a> ) or Students must be enrolled in one of the fol lowing Programs: GCEN or METC or GEPR
<a href="#">ELE3105 Computer Controlled Systems</a>	3	1				1		Pre-requisite: <a href="#">ELE2103</a> or S tudents must be enrolled in one of the following Program s: GCNS or GCEN or GDNS

Major study: Computer Systems Engineering (Major Study Code: 16924)								
Course	Year of program and semester in which course is normally studied						Residential school	Enrolment requirements
	On-campus (ONC)		External (EXT)		Online (ONL)			
	Year	Sem	Year	Sem	Year	Sem		
								or MEPR or MENS or METC or GEPR
<a href="#">ELE3305 Computer Systems and Communications Protocols</a>	3	1				1		
Approved Course (Select from minor or approved course list)	3	1				1,2,3		
<a href="#">ELE4307 Real Time Systems</a>	3	2				2		Pre-requisite: <a href="#">ELE1301</a> or S tudents must be enrolled in one of the following Program s: GCNS or GDNS or MENS or MEPR
Approved Course (Select from minor or approved course list)	3	2				2		
<a href="#">ELE3107 Signal Processing</a>	3	2				2		
<a href="#">ENG4110 Engineering Research Methodology</a>	3	2				2		
<b>Practice Courses Year 3</b>								
<a href="#">ELE3914 Electrical and Electronic Practice D</a>	3	1		3			M	Pre-requisite: ( <a href="#">ELE1801</a> and <a href="#">ELE1301</a> and <a href="#">ELE1502</a> ) or Students must be enrolled in one of the following Program s: MENS or MEPR
<a href="#">ELE3915 Electrical and Electronic Practice E</a>	3	2		2			M	Pre-requisite: <a href="#">ELE1801</a> and <a href="#">ELE1301</a> and <a href="#">ELE1502</a> or S tudents must be enrolled in one of the following Program s: MENS or MEPR
<a href="#">ENG3902 Professional Practice 1</a>				2			M	Pre-requisite: Students must be enrolled in one of the fol lowing Programs: BCNH or BCON or BEBB or BEBC or BEHB or BEHI or BEHS or BENG or BENH or MENS
<b>Academic Courses Year 4</b>								
Approved Course (Select from minor or approved course list)	4	1				1		
<a href="#">CSC2408 Software Development Tools</a>	4	1				1,2		Pre-requisite: <a href="#">CSC1401</a>
<a href="#">ENG3003 Engineering Management</a> <sup>†</sup>	4	1				1,3		
<a href="#">ENG4111 Research Project Part 1</a>	4	1				1		Pre-requisite: <a href="#">ENG3902</a> and <a href="#">ENG4110</a> and Students must be enrolled in one of the fol lowing Programs: BCNH or BCON or BEBB or BEBC or BEHB or BEHI or BEHS or BENG or BENH Undergradu ate students must have com pleted 22 units in their pro gram.
Approved Course (Select from minor or approved course list)	4	2				2		
<a href="#">CSC2401 Algorithms and Data Structures</a>	4	2				2		Pre-requisite: <a href="#">CSC2402</a> or Students must be enrolled in one of the following Program s: GDTI or GCSC or GCEN

Major study: Computer Systems Engineering (Major Study Code: 16924)								
Course	Year of program and semester in which course is normally studied						Residential school	Enrolment requirements
	On-campus (ONC)		External (EXT)		Online (ONL)			
	Year	Sem	Year	Sem	Year	Sem		
								or METC or MCOT or MCTE or MCOP or MPIT
ENG4112 Research Project Part 2	4	2				1,2		Pre-requisite: <a href="#">ENG4111</a> and Students must be enrolled in one of the following Programs: BCNH or BCON or BEBB or BEBC or BEHB or BEHI or BEHS or BENG or BENH
Approved Course (Select from minor or approved course list)	4	2				2,3		
Practice Courses Year 4								
ENG4903 Professional Practice 2	4	1		2			M	Pre-requisite: <a href="#">ENG3902</a> and Students must be enrolled in: BCNH or BCON or BEBB or BEBC or BEHB or BEHI or BEHS or BENG or BENH or MENS. Students cannot enrol in <a href="#">ENG3902</a> & <a href="#">ENG4903</a> in the same semester. Co-requisite: <a href="#">ENG4111</a> or <a href="#">ENG4112</a> or <a href="#">ENG8411</a> or <a href="#">ENG8412</a>
ENG4909 Work Experience - Professional						1,2,3		
Select a minor study or approved courses from the following or other elective courses as approved by the Program Director								
CSC3400 Database Systems <sup>£</sup>		1				1,3		Pre-requisite: <a href="#">CSC1401</a> or <a href="#">CIS1000</a> Enrolment is not permitted in <a href="#">CSC3400</a> if <a href="#">CIS2002</a> has been previously completed.
CSC3403 Comparative Programming Languages		1				1		Pre-req: <a href="#">CSC2408</a> ; and Pre-req or Co-req: <a href="#">CSC2402</a> ; or Students must be enrolled in one of the following Programs: GDTI or GCSC or GCEN or METC or MCOT or MCTE or MCOP or MPIT Enrolment is not permitted in <a href="#">CSC3403</a> if <a href="#">CIS3001</a> has been previously completed
CSC1310 Networking 1: Internetworking		1,2				1,2		Pre-requisite: <a href="#">CSC1050</a>
CSC3412 System and Security Administration		1				1		Pre-requisite: <a href="#">CSC2408</a>
CSC3413 Network Design and Analysis		2				2		Pre-requisite: <a href="#">CSC3412</a>
CSC3420 Mobile Internet Technology		1				1		Pre-requisite: <a href="#">CSC3407</a> or Students must be enrolled in one of the following Programs: GDTI or GCSC or GCEN or METC or MCOT or MCTE or MCOP or MPIT
CSC3427 Switching, Wireless and WAN Technologies		2				2		Pre-requisite: <a href="#">CSC3407</a> or <a href="#">CSC1310</a> or Students must be enrolled in one of the following Programs: GDTI or GCSC or GCEN or METC or MCOT or MCTE or MCOP or MPIT

Major study: Computer Systems Engineering (Major Study Code: 16924)								
Course	Year of program and semester in which course is normally studied						Residential school	Enrolment requirements
	On-campus (ONC)		External (EXT)		Online (ONL)			
	Year	Sem	Year	Sem	Year	Sem		
<a href="#">ELE2504 Electronic Design and Analysis</a>		2				2		Pre-requisite: <a href="#">ELE1502</a> or S tudents must be enrolled in one of the following Program s: MEPR or GDNS or MENS or GCNS or GCEN or GEPR Students cannot be enrolled in <a href="#">ELE2503</a> and <a href="#">ELE2504</a> in the same semester
<a href="#">ELE3506 Electronic Measurement</a>		2				2		Pre-requisite: ( <a href="#">ELE1502</a> and ( <a href="#">ELE2101</a> or <a href="#">ELE2103</a> ) and ( <a href="#">ELE2503</a> or <a href="#">ELE2504</a> )) or Students must be enrolled in one of the following Program s: GCEN or METC or MEPR or MENS
<a href="#">ELE4804 Power Systems Protection</a>						1		Pre-requisite: <a href="#">ELE1801</a> or S tudents must be enrolled in one of the following Program s: GCEN or METC or MEPR or GCNS or GDNS or MENS
<a href="#">ELE4606 Communication Systems</a>		2				2		Pre-requisite: ( <a href="#">ELE2504</a> and <a href="#">ELE2601</a> ) or Students must be enrolled in one of the fol lowing Programs: GCEN or METC or MEPR or MENS or GCNS or GDNS
<a href="#">ELE4607 Advanced Digital Communications</a>		1				1		Pre-requisite: <a href="#">ELE1301</a> or S tudents must be enrolled in one of the following Program s: GCEN or METC or GCNS or GDNS or MENS or MEPR
<a href="#">ELE5001 Industrial Communications Protocols</a>		1				1		Pre-requisite: <a href="#">ELE2601</a> or S tudents must be enrolled in the following Program: GCN S, GDNS, MENS or MEPR
<a href="#">ENG4004 Engineering Project and Operations Management<sup>‡</sup></a>		3				2,3		
<a href="#">CIV1501 Engineering Statics</a>		2				2,3		Pre-requisite: <a href="#">ENM1600</a> or ( <a href="#">ENM1500</a> and <a href="#">CIV1500</a> ) or Students must be enrolled in one of the following Program s: MEPR or GCEN or GEPR
<a href="#">MEC2501 Process Control Systems</a>						2		Pre-requisite: <a href="#">ELE2103</a> or ( <a href="#">MEC1501</a> and <a href="#">ELE2101</a> as Co-requisite or Pre-requisite) or Students must be enrolled in the following Program: GEPR
<a href="#">MEC4406 Robotics and Machine Vision</a>		2				2		Pre-requisite: <a href="#">MEC2401</a> or <a href="#">ELE2103</a> or Students must be enrolled in one of the fol lowing Programs: MENS or GCEN

#### Footnotes

£ In Semester 3, 2023 this course will be delivered as a Transition (9 week) semester, commencing on 13 November 2023 and concluding on 12 January 2024

§ Unavailable online in S3 2023



- ~ Unavailable in On-Campus mode in S2 2023  
# Unavailable in External mode in S3 2023  
† The semester 3 offering of this course is offered in odd numbered years only.  
‡ The semester 3 offering of this course is offered in even numbered years only.

## Computer Systems Engineering major part-time recommended enrolment pattern

To satisfy the requirements of the program students must complete all of the Academic and Practice courses in the following table that shows the recommended enrolment patterns for on-campus and external students for our Toowoomba campus. Students following a non-standard enrolment pattern should click on the course link in the table below to ascertain if a course is offered in another term.

Major study: Computer Systems Engineering (Major Study Code: 16924)								
Course	Year of program and semester in which course is normally studied						Residential school	Enrolment requirements
	On-campus (ONC)		External (EXT)		Online (ONL)			
	Year	Sem	Year	Sem	Year	Sem		
Year 1								
ENM1600 Engineering Mathematics		1,2				1,2		Enrolment is not permitted in ENM1600 if MAT1102 or MAT1502 has been previously completed
ENG1004 Engineering Problem Solving Principles		1				1,2		
ELE1301 Computer Engineering		1				1		
ELE1502 Electronic Circuits		1				1		
Year 1 Practice Courses								
ENG1901 Engineering Practice 1		1,2		2,3			M	
Year 2								
ENG1002 Introduction to Engineering and Built Environment Applications		1,2				1,2		
CSC1401 Foundation Programming <sup>£</sup>		1,2				1,2,3		
ELE1801 Electrical Technology <sup>§</sup>		2				2,3		Pre-requisite: ENM1500 or ENM1600 or Students must be enrolled in one of the following Programs: MEPR or GCEN or GEPR
ENG1100 Introduction to Engineering Design		1,2				1,2		
Year 2 Practice Courses								
ELE1911 Electrical and Electronic Practice A <sup>~#</sup>		2		3			M	
Year 3								
ENM2600 Advanced Engineering Mathematics <sup>§</sup>		1				1,3		Pre-requisite: ENM1600 or Students must be enrolled in one of the following Programs: GCEN or METC or MENS or GDNS or MEPR or MSCN
ELE2303 Embedded Systems Design		1				1		Pre-requisite: ELE1301
ELE2103 Linear Systems and Control		2				2		
ENG2002 Technology, Sustainability and Society		1,2				1,2,3		
Year 3 Practice Courses								
ELE2912 Electrical and Electronic Practice B <sup>#</sup>		1		3			M	Pre-requisite: (ELE1301 and ELE1502 and ELE1801) or Students must be enrolled in one of the following Programs: GDNS or MENS

Major study: Computer Systems Engineering (Major Study Code: 16924)								
Course	Year of program and semester in which course is normally studied						Residential school	Enrolment requirements
	On-campus (ONC)		External (EXT)		Online (ONL)			
	Year	Sem	Year	Sem	Year	Sem		
Year 4								
CSC2402 Object-Oriented Programming in C++		1				1		Pre-requisite: <a href="#">CSC1401</a> or Students must be enrolled in one of the following Programs: GDTI or GCSC or GCEN or METC or MCOT or MCTE or MCOP or MPIT or MCTN
MAT1101 Discrete Mathematics for Computing		1				1		
ENG3104 Engineering Simulations and Computations		2				2		Pre-requisite: ( <a href="#">ENM2600</a> or <a href="#">MAT2100</a> or MAT2500) or Students must be enrolled in one of the following Programs: GDET or METC or GDNS or MENS
Approved Course (Select from minor or approved course list)								
Year 4 Practice Courses								
ELE2913 Electrical and Electronic Practice C						2		Pre-requisite: ( <a href="#">ELE1301</a> and <a href="#">ELE1502</a> and <a href="#">ELE1801</a> ) or Students must be enrolled in one of the following Programs: GDNS or MENS
Year 5								
ELE2601 Telecommunications Principles		1				1		Pre-requisite: ( <a href="#">ELE1502</a> and <a href="#">ELE1801</a> ) or Students must be enrolled in one of the following Programs: GCEN or METC or GEPR
ELE3105 Computer Controlled Systems		1				1		Pre-requisite: <a href="#">ELE2103</a> or Students must be enrolled in one of the following Programs: GCNS or GCEN or GDNS or MEPR or MENS or METC or GEPR
ELE4307 Real Time Systems		2				2		Pre-requisite: <a href="#">ELE1301</a> or Students must be enrolled in one of the following Programs: GCNS or GDNS or MENS or MEPR
Approved Course (Select from minor or approved course list)								
Year 5 Practice Courses								
ELE3914 Electrical and Electronic Practice D		1		3			M	Pre-requisite: ( <a href="#">ELE1801</a> and <a href="#">ELE1301</a> and <a href="#">ELE1502</a> ) or Students must be enrolled in one of the following Programs: MENS or MEPR
Year 6								
ELE3305 Computer Systems and Communications Protocols		1				1		
Approved Course (Select from minor or approved course list)								

Major study: Computer Systems Engineering (Major Study Code: 16924)								
Course	Year of program and semester in which course is normally studied						Residential school	Enrolment requirements
	On-campus (ONC)		External (EXT)		Online (ONL)			
	Year	Sem	Year	Sem	Year	Sem		
<a href="#">ELE3107 Signal Processing</a>		2				2		
Approved Course (Select from minor or approved course list)								
Year 6 Practice Courses								
<a href="#">ELE3915 Electrical and Electronic Practice E</a>		2		2			M	Pre-requisite: <a href="#">ELE1801</a> and <a href="#">ELE1301</a> and <a href="#">ELE1502</a> or Students must be enrolled in one of the following Programs: MENS or MEPR
Year 7								
<a href="#">CSC2408 Software Development Tools</a>		1,2				1,2		Pre-requisite: <a href="#">CSC1401</a>
Approved Course (Select from minor or approved course list)								
<a href="#">ENG4110 Engineering Research Methodology</a>		2				2		
<a href="#">CSC2401 Algorithms and Data Structures</a>		2				2		Pre-requisite: <a href="#">CSC2402</a> or Students must be enrolled in one of the following Programs: GDTI or GCSC or GCEN or METC or MCOT or MCTE or MCOP or MPIT
Year 7 Practice Courses								
<a href="#">ENG3902 Professional Practice 1</a>				2			M	Pre-requisite: Students must be enrolled in one of the following Programs: BCNH or BCON or BEBB or BEBC or BEHB or BEHI or BEHS or BENG or BENH or MENS
Year 8								
<a href="#">ENG3003 Engineering Management</a> <sup>†</sup>		1,3				1,3		
<a href="#">ENG4111 Research Project Part 1</a>		1				1		Pre-requisite: <a href="#">ENG3902</a> and <a href="#">ENG4110</a> and Students must be enrolled in one of the following Programs: BCNH or BCON or BEBB or BEBC or BEHB or BEHI or BEHS or BENG or BENH Undergraduate students must have completed 22 units in their program.
Approved Course (Select from minor or approved course list)								
<a href="#">ENG4112 Research Project Part 2</a>		1,2				1,2		Pre-requisite: <a href="#">ENG4111</a> and Students must be enrolled in one of the following Programs: BCNH or BCON or BEBB or BEBC or BEHB or BEHI or BEHS or BENG or BENH
Year 8 Practice Courses								
<a href="#">ENG4903 Professional Practice 2</a>		1		2			M	Pre-requisite: <a href="#">ENG3902</a> and Students must be enrolled in: BCNH or BCON or BEBB or

Major study: Computer Systems Engineering (Major Study Code: 16924)								
Course	Year of program and semester in which course is normally studied						Residential school	Enrolment requirements
	On-campus (ONC)		External (EXT)		Online (ONL)			
	Year	Sem	Year	Sem	Year	Sem		
								BEBC or BEHB or BEHI or BEHS or BENG or BENH or MENS. Students cannot enrol in <a href="#">ENG3902</a> & <a href="#">ENG4903</a> in the same semester. Co-requisite: <a href="#">ENG4111</a> or <a href="#">ENG4112</a> or <a href="#">ENG8411</a> or <a href="#">ENG8412</a>
<a href="#">ENG4909 Work Experience - Professional</a>						1,2,3		
<b>Select a minor study or approved courses from the following or other elective courses as approved by the Program Director</b>								
<a href="#">CSC3400 Database Systems</a> <sup>£</sup>		1				1,3		Pre-requisite: <a href="#">CSC1401</a> or <a href="#">CIS1000</a> Enrolment is not permitted in <a href="#">CSC3400</a> if <a href="#">CIS2002</a> has been previously completed.
<a href="#">CSC3403 Comparative Programming Languages</a>		1				1		Pre-req: <a href="#">CSC2408</a> ; and Pre-req or Co-req: <a href="#">CSC2402</a> ; or Students must be enrolled in one of the following Programs: <a href="#">GDTI</a> or <a href="#">GCSC</a> or <a href="#">GCEN</a> or <a href="#">METC</a> or <a href="#">MCOT</a> or <a href="#">MCTE</a> or <a href="#">MCOP</a> or <a href="#">MPIT</a> Enrolment is not permitted in <a href="#">CSC3403</a> if <a href="#">CIS3001</a> has been previously completed
<a href="#">CSC1310 Networking 1: Internetworking</a>		1,2				1,2		Pre-requisite: <a href="#">CSC1050</a>
<a href="#">CSC3412 System and Security Administration</a>		1				1		Pre-requisite: <a href="#">CSC2408</a>
<a href="#">CSC3413 Network Design and Analysis</a>		2				2		Pre-requisite: <a href="#">CSC3412</a>
<a href="#">CSC3420 Mobile Internet Technology</a>		1				1		Pre-requisite: <a href="#">CSC3407</a> or Students must be enrolled in one of the following Programs: <a href="#">GDTI</a> or <a href="#">GCSC</a> or <a href="#">GCEN</a> or <a href="#">METC</a> or <a href="#">MCOT</a> or <a href="#">MCTE</a> or <a href="#">MCOP</a> or <a href="#">MPIT</a>
<a href="#">CSC3427 Switching, Wireless and WAN Technologies</a>		2				2		Pre-requisite: <a href="#">CSC3407</a> or <a href="#">CSC1310</a> or Students must be enrolled in one of the following Programs: <a href="#">GDTI</a> or <a href="#">GCSC</a> or <a href="#">GCEN</a> or <a href="#">METC</a> or <a href="#">MCOT</a> or <a href="#">MCTE</a> or <a href="#">MCOP</a> or <a href="#">MPIT</a>
<a href="#">ELE2504 Electronic Design and Analysis</a>		2				2		Pre-requisite: <a href="#">ELE1502</a> or Students must be enrolled in one of the following Programs: <a href="#">MEPR</a> or <a href="#">GDNS</a> or <a href="#">MENS</a> or <a href="#">GCNS</a> or <a href="#">GCEN</a> or <a href="#">GEPR</a> Students cannot be enrolled in <a href="#">ELE2503</a> and <a href="#">ELE2504</a> in the same semester
<a href="#">ELE3506 Electronic Measurement</a>		2				2		Pre-requisite: ( <a href="#">ELE1502</a> and ( <a href="#">ELE2101</a> or <a href="#">ELE2103</a> )) and ( <a href="#">ELE2503</a> or <a href="#">ELE2504</a> )) or Students must be enrolled in one of the following Programs: <a href="#">GCEN</a> or <a href="#">METC</a> or <a href="#">MEPR</a> or <a href="#">MENS</a>

Major study: Computer Systems Engineering (Major Study Code: 16924)								
Course	Year of program and semester in which course is normally studied						Residential school	Enrolment requirements
	On-campus (ONC)		External (EXT)		Online (ONL)			
	Year	Sem	Year	Sem	Year	Sem		
<a href="#">ELE4804 Power Systems Protection</a>						1		Pre-requisite: <a href="#">ELE1801</a> or S tudents must be enrolled in one of the following Program s: GCEN or METC or MEPR or GCNS or GDNS or MENS
<a href="#">ELE4606 Communication Systems</a>		2				2		Pre-requisite: ( <a href="#">ELE2504</a> and <a href="#">ELE2601</a> ) or Students must be enrolled in one of the fol lowing Programs: GCEN or METC or MEPR or MENS or GCNS or GDNS
<a href="#">ELE4607 Advanced Digital Communications</a>		1				1		Pre-requisite: <a href="#">ELE1301</a> or S tudents must be enrolled in one of the following Program s: GCEN or METC or GCNS or GDNS or MENS or MEPR
<a href="#">ELE5001 Industrial Communications Protocols</a>		1				1		Pre-requisite: <a href="#">ELE2601</a> or S tudents must be enrolled in the following Program: GCN S, GDNS, MENS or MEPR
<a href="#">ENG4004 Engineering Project and Operations Management<sup>‡</sup></a>		3				2,3		
<a href="#">CIV1501 Engineering Statics</a>		2				2,3		Pre-requisite: <a href="#">ENM1600</a> or ( <a href="#">ENM1500</a> and <a href="#">CIV1500</a> ) or Students must be enrolled in one of the following Program s: MEPR or GCEN or GEPR
<a href="#">MEC2501 Process Control Systems</a>						2		Pre-requisite: <a href="#">ELE2103</a> or ( <a href="#">MEC1501</a> and <a href="#">ELE2101</a> as Co-requisite or Pre-requisite) or Students must be enrolled in the following Program: GEPR
<a href="#">MEC4406 Robotics and Machine Vision</a>		2				2		Pre-requisite: <a href="#">MEC2401</a> or <a href="#">ELE2103</a> or Students must be enrolled in one of the fol lowing Programs: MENS or GCEN

#### Footnotes

- £ In Semester 3, 2023 this course will be delivered as a Transition (9 week) semester, commencing on 13 November 2023 and concluding on 12 January 2024
- § Unavailable online in S3 2023
- ~ Unavailable in On-Campus mode in S2 2023
- # Unavailable in External mode in S3 2023
- † The semester 3 offering of this course is offered in odd numbered years only.
- ‡ The semester 3 offering of this course is offered in even numbered years only.

## Electrical and Electronic Engineering major full-time recommended enrolment pattern (Toowoomba and Springfield campus)

To satisfy the requirements of the program students must complete all of the Academic and Practice courses in the following table that shows the recommended enrolment patterns for on-campus and external students

for our Toowoomba campus. Students following a non-standard enrolment pattern should click on the course link in the table below to ascertain if a course is offered in another term.

Major study: Electrical and Electronic Engineering (Major Study Code: 16925)								
Course	Year of program and semester in which course is normally studied						Residential school	Enrolment requirements
	On-campus (ONC)		External (EXT)		Online (ONL)			
	Year	Sem	Year	Sem	Year	Sem		
Academic Courses Year 1								
ENM1600 Engineering Mathematics	1	1				1,2		Enrolment is not permitted in ENM1600 if MAT1102 or MAT1502 has been previously completed
ENG1004 Engineering Problem Solving Principles	1	1				1,2		
ELE1301 Computer Engineering	1	1				1		
ELE1502 Electronic Circuits	1	1				1		
ENG1002 Introduction to Engineering and Built Environment Applications	1	2				1,2		
MEC1201 Engineering Materials	1	2				1,2,3		
ELE1801 Electrical Technology <sup>§</sup>	1	2				2,3		Pre-requisite: ENM1500 or ENM1600 or Students must be enrolled in one of the following Programs: MEPR or GCEN or GEPR
ENG1100 Introduction to Engineering Design	1	2				1,2		
Practice Courses Year 1								
ENG1901 Engineering Practice 1	1	1,2	1	2,3			M	
ELE1911 Electrical and Electronic Practice A <sup>~#</sup>	1	2		3			M	
Academic Courses Year 2								
ENM2600 Advanced Engineering Mathematics <sup>§</sup>	2	1				1,3		Pre-requisite: ENM1600 or Students must be enrolled in one of the following Programs: GCEN or METC or MENS or GDNS or MEPR or MSCN
ELE2303 Embedded Systems Design	2	1				1		Pre-requisite: ELE1301
ENG2002 Technology, Sustainability and Society	2	1				1,2,3		
ELE2601 Telecommunications Principles	2	1				1		Pre-requisite: (ELE1502 and ELE1801) or Students must be enrolled in one of the following Programs: GCEN or METC or GEPR
ELE2103 Linear Systems and Control	2	2				2		
ELE4307 Real Time Systems	2	2				2		Pre-requisite: ELE1301 or Students must be enrolled in one of the following Programs: GCNS or GDNS or MENS or MEPR
ENG3104 Engineering Simulations and Computations	2	2				2		Pre-requisite: (ENM2600 or MAT2100 or MAT2500) or Students must be enrolled in one of the following Programs: GDET or METC or GDNS or MENS
ELE2504 Electronic Design and Analysis	2	2				2		Pre-requisite: ELE1502 or Students must be enrolled in one of the following Programs: MEPR or GDNS or MENS

Major study: Electrical and Electronic Engineering (Major Study Code: 16925)								
Course	Year of program and semester in which course is normally studied						Residential school	Enrolment requirements
	On-campus (ONC)		External (EXT)		Online (ONL)			
	Year	Sem	Year	Sem	Year	Sem		
								or GCNS or GCEN or GEPR Students cannot be enrolled in <a href="#">ELE2503</a> and <a href="#">ELE2504</a> in the same semester
Practice Courses Year 2								
<a href="#">ELE2912 Electrical and Electronic Practice B<sup>#</sup></a>	2	1		3			M	Pre-requisite: ( <a href="#">ELE1301</a> and <a href="#">ELE1502</a> and <a href="#">ELE1801</a> ) or Students must be enrolled in one of the following Program s: GDNS or MENS
<a href="#">ELE2913 Electrical and Electronic Practice C</a>						2		Pre-requisite: ( <a href="#">ELE1301</a> and <a href="#">ELE1502</a> and <a href="#">ELE1801</a> ) or Students must be enrolled in one of the following Program s: GDNS or MENS
Academic Courses Year 3								
<a href="#">ELE3803 Electrical Plant</a>	3	1				1		Pre-requisite: <a href="#">ELE1801</a> or S tudents must be enrolled in one of the following Program s: GCEN or METC or MEPR or GCNS or GDNS or MENS or GEPR
<a href="#">ELE3305 Computer Systems and Communications Protocols</a>	3	1				1		
Approved Course (Select from minor or approved course list)	3	1				1		
<a href="#">ELE3105 Computer Controlled Systems</a>	3	1				1		Pre-requisite: <a href="#">ELE2103</a> or S tudents must be enrolled in one of the following Program s: GCNS or GCEN or GDNS or MEPR or MENS or METC or GEPR
<a href="#">ELE3506 Electronic Measurement</a>	3	2				2		Pre-requisite: ( <a href="#">ELE1502</a> and ( <a href="#">ELE2101</a> or <a href="#">ELE2103</a> ) and ( <a href="#">ELE2503</a> or <a href="#">ELE2504</a> )) or Students must be enrolled in one of the following Program s: GCEN or METC or MEPR or MENS
Approved Course (Select from minor or approved course list)	3	2				2		
<a href="#">ELE3107 Signal Processing</a>	3	2				2		
<a href="#">ENG4110 Engineering Research Methodology</a>	3	2				2		
Practice Courses Year 3								
<a href="#">ELE3914 Electrical and Electronic Practice D</a>	3	1		3			M	Pre-requisite: ( <a href="#">ELE1801</a> and <a href="#">ELE1301</a> and <a href="#">ELE1502</a> ) or Students must be enrolled in one of the following Program s: MENS or MEPR
<a href="#">ELE3915 Electrical and Electronic Practice E</a>	3	2		2			M	Pre-requisite: <a href="#">ELE1801</a> and <a href="#">ELE1301</a> and <a href="#">ELE1502</a> or S tudents must be enrolled in one of the following Program s: MENS or MEPR

Major study: Electrical and Electronic Engineering (Major Study Code: 16925)								
Course	Year of program and semester in which course is normally studied						Residential school	Enrolment requirements
	On-campus (ONC)		External (EXT)		Online (ONL)			
	Year	Sem	Year	Sem	Year	Sem		
ENG3902 Professional Practice 1				2			M	Pre-requisite: Students must be enrolled in one of the following Programs: BCNH or BCON or BEBB or BEBC or BEHB or BEHI or BEHS or BENG or BENH or MENS
Academic Courses Year 4								
ELE4605 Fields and Waves	4	1				1		Pre-requisite: {(MAT1502 or ENM1600) and ELE2103 and ELE2601} or Students must be enrolled in one of the following Programs: MEPR or MENS or GCNS or GDNS
Approved Course (Select from minor or approved course list)	4	1				1		
ENG3003 Engineering Management <sup>†</sup>	4	1				1,3		
ENG4111 Research Project Part 1	4	1				1		Pre-requisite: ENG3902 and ENG4110 and Students must be enrolled in one of the following Programs: BCNH or BCON or BEBB or BEBC or BEHB or BEHI or BEHS or BENG or BENH Undergraduate students must have completed 22 units in their program.
Approved Course (Select from minor or approved course list)	4	2				2		
ELE4606 Communication Systems	4	2				2		Pre-requisite: (ELE2504 and ELE2601) or Students must be enrolled in one of the following Programs: GCEN or METC or MEPR or MENS or GCNS or GDNS
ENG4112 Research Project Part 2	4	2				1,2		Pre-requisite: ENG4111 and Students must be enrolled in one of the following Programs: BCNH or BCON or BEBB or BEBC or BEHB or BEHI or BEHS or BENG or BENH
Approved Course (Select from minor or approved course list)	4	2				2,3		
Practice Courses Year 4								
ENG4903 Professional Practice 2	4	1		2			M	Pre-requisite: ENG3902 and Students must be enrolled in: BCNH or BCON or BEBB or BEBC or BEHB or BEHI or BEHS or BENG or BENH or MENS. Students cannot enrol in ENG3902 & ENG4903 in the same semester. Co-requisite: ENG4111 or ENG4112 or ENG8411 or ENG8412
ENG4909 Work Experience - Professional						1,2,3		



Major study: Electrical and Electronic Engineering (Major Study Code: 16925)								
Course	Year of program and semester in which course is normally studied						Residential school	Enrolment requirements
	On-campus (ONC)		External (EXT)		Online (ONL)			
	Year	Sem	Year	Sem	Year	Sem		
Select a minor study or approved courses from the following or other elective courses as approved by the Program Director								
ELE2704 Electricity Supply Systems		2				2		Pre-requisite: ELE1801 or S tudents must be enrolled in one of the following Program s: MEPR or GCEN or METC or GEPR
ELE4804 Power Systems Protection						1		Pre-requisite: ELE1801 or S tudents must be enrolled in one of the following Program s: GCEN or METC or MEPR or GCNS or GDNS or MENS
ELE3805 Power Electronics Principles and Applications		2				2		Pre-requisite: (ELE1502 and ELE1801) or Students must be enrolled in one of the fol lowing Programs: GCEN or METC or MEPR or GCNS or GDNS or MENS
ELE4807 Power Systems Analysis		1				1		
ELE4109 Measurement Science and Instrument Engineering *						1		
ELE4607 Advanced Digital Communications		1				1		Pre-requisite: ELE1301 or S tudents must be enrolled in one of the following Program s: GCEN or METC or GCNS or GDNS or MENS or MEPR
ELE5001 Industrial Communications Protocols		1				1		Pre-requisite: ELE2601 or S tudents must be enrolled in the following Program: GCN S, GDNS, MENS or MEPR
CSC1401 Foundation Programming <sup>£</sup>		1,2				1,2,3		
CSC2402 Object-Oriented Programming in C++		1				1		Pre-requisite: CSC1401 or Students must be enrolled in one of the following Program s: GDTI or GCSC or GCEN or METC or MCOT or MCTE or MCOP or MPIT or MCTN
CIV1501 Engineering Statics		2				2,3		Pre-requisite: ENM1600 or (ENM1500 and CIV1500) or Students must be enrolled in one of the following Program s: MEPR or GCEN or GEPR
MEC2106 Introduction to Thermofluids		2				2		Pre-requisite: CIV1500 or CIV1501 or Students must be enrolled in one of the follow ing Programs: BENH or BE BC or BEHS or GCEN or MENS or GEPR
MEC2401 Dynamics I		1				1		Pre-requisite: ((MAT1502 or MAT1102 or ENM1600) and CIV1501) or Students must be enrolled in one of the fol lowing Programs: GCEN or GCNS or METC or MEPR or MENS or GEPR

Major study: Electrical and Electronic Engineering (Major Study Code: 16925)								
Course	Year of program and semester in which course is normally studied						Residential school	Enrolment requirements
	On-campus (ONC)		External (EXT)		Online (ONL)			
	Year	Sem	Year	Sem	Year	Sem		
MEC2402 Stress Analysis		1				1		Pre-requisite: CIV1501 or S students must be enrolled in one of the following Program s: GCEN or METC or MEPR or GCNS or GDNS or MENS or GEPR
MEC2501 Process Control Systems						2		Pre-requisite: ELE2103 or (MEC1501 and ELE2101 as Co-requisite or Pre-requisite) or Students must be enrolled in the following Program: GEPR
MEC3204 Production Engineering		2				2		
MEC4104 Renewable Energy Technology		2				2		Pre-requisite: ((MEC2101 and MEC3102) or MEC2106) or Students must be enrolled in one of the following Pro grams: GCEN or GCNS or GDNS or METC or MENS or MEPR
MEC4406 Robotics and Machine Vision		2				2		Pre-requisite: MEC2401 or ELE2103 or Students must be enrolled in one of the fol lowing Programs: MENS or GCEN
ENG4004 Engineering Project and Operations Management <sup>‡</sup>		3				2,3		
CHE1110 Chemistry 1 <sup>^</sup>		1		1			HR	

#### Footnotes

- § Unavailable online in S3 2023  
 ~ Unavailable in On-Campus mode in S2 2023  
 # Unavailable in External mode in S3 2023  
 † The semester 3 offering of this course is offered in odd numbered years only.  
 \* Offered in odd years only e.g. 2021, 2023 etc  
 £ In Semester 3, 2023 this course will be delivered as a Transition (9 week) semester, commencing on 13 November 2023 and concluding on 12 January 2024  
 ‡ The semester 3 offering of this course is offered in even numbered years only.  
 ^ [CHE1110 Chemistry 1](#) has a highly recommended residential school requirement in External mode.

## Electrical and Electronic Engineering major part-time recommended enrolment pattern (Toowoomba and Springfield campus)

Major study: Electrical and Electronic Engineering (Major Study Code: 16925)								
Course	Year of program and semester in which course is normally studied						Residential school	Enrolment requirements
	On-campus (ONC)		External (EXT)		Online (ONL)			
	Year	Sem	Year	Sem	Year	Sem		
Year 1								
ENM1600 Engineering Mathematics		1,2				1,2		Enrolment is not permitted in ENM1600 if MAT1102 or MAT1502 has been previously completed
ENG1004 Engineering Problem Solving Principles		1				1,2		
ENG1002 Introduction to Engineering and Built Environment Applications		1,2				1,2		

Major study: Electrical and Electronic Engineering (Major Study Code: 16925)								
Course	Year of program and semester in which course is normally studied						Residential school	Enrolment requirements
	On-campus (ONC)		External (EXT)		Online (ONL)			
	Year	Sem	Year	Sem	Year	Sem		
<a href="#">MEC1201 Engineering Materials</a>		1,2				1,2,3		
Year 1 Practice Courses								
<a href="#">ENG1901 Engineering Practice 1</a>		1,2		2,3			M	
Year 2								
<a href="#">ELE1301 Computer Engineering</a>		1				1		
<a href="#">ELE1502 Electronic Circuits</a>		1				1		
<a href="#">ELE1801 Electrical Technology</a> <sup>§</sup>		2				2,3		Pre-requisite: <a href="#">ENM1500</a> or <a href="#">ENM1600</a> or Students must be enrolled in one of the following Programs: MEPR or GCEN or GEPR
<a href="#">ENG1100 Introduction to Engineering Design</a>		1,2				1,2		
Year 2 Practice Courses								
<a href="#">ELE1911 Electrical and Electronic Practice A</a> <sup>~#</sup>		2		3			M	
Year 3								
<a href="#">ENM2600 Advanced Engineering Mathematics</a> <sup>§</sup>		1				1,3		Pre-requisite: <a href="#">ENM1600</a> or Students must be enrolled in one of the following Programs: GCEN or METC or MENS or GDNS or MEPR or MSCN
<a href="#">ELE2303 Embedded Systems Design</a>		1				1		Pre-requisite: <a href="#">ELE1301</a>
<a href="#">ELE2103 Linear Systems and Control</a>		2				2		
<a href="#">ELE4307 Real Time Systems</a>		2				2		Pre-requisite: <a href="#">ELE1301</a> or Students must be enrolled in one of the following Programs: GCNS or GDNS or MENS or MEPR
Year 3 Practice Courses								
<a href="#">ELE2912 Electrical and Electronic Practice B</a> <sup>#</sup>		1		3			M	Pre-requisite: ( <a href="#">ELE1301</a> and <a href="#">ELE1502</a> and <a href="#">ELE1801</a> ) or Students must be enrolled in one of the following Programs: GDNS or MENS
Year 4								
<a href="#">ENG2002 Technology, Sustainability and Society</a>		1,2				1,2,3		
<a href="#">ELE2601 Telecommunications Principles</a>		1				1		Pre-requisite: ( <a href="#">ELE1502</a> and <a href="#">ELE1801</a> ) or Students must be enrolled in one of the following Programs: GCEN or METC or GEPR
<a href="#">ENG3104 Engineering Simulations and Computations</a>		2				2		Pre-requisite: ( <a href="#">ENM2600</a> or <a href="#">MAT2100</a> or <a href="#">MAT2500</a> ) or Students must be enrolled in one of the following Programs: GDET or METC or GDNS or MENS
<a href="#">ELE2504 Electronic Design and Analysis</a>		2				2		Pre-requisite: <a href="#">ELE1502</a> or Students must be enrolled in one of the following Programs: MEPR or GDNS or MENS

Major study: Electrical and Electronic Engineering (Major Study Code: 16925)								
Course	Year of program and semester in which course is normally studied						Residential school	Enrolment requirements
	On-campus (ONC)		External (EXT)		Online (ONL)			
	Year	Sem	Year	Sem	Year	Sem		
								or GCNS or GCEN or GEPR Students cannot be enrolled in <a href="#">ELE2503</a> and <a href="#">ELE2504</a> in the same semester
Year 4 Practice Courses								
<a href="#">ELE2913 Electrical and Electronic Practice C</a>						2		Pre-requisite: ( <a href="#">ELE1301</a> and <a href="#">ELE1502</a> and <a href="#">ELE1801</a> ) or Students must be enrolled in one of the following Program s: GDNS or MENS
Year 5								
<a href="#">ELE3803 Electrical Plant</a>		1				1		Pre-requisite: <a href="#">ELE1801</a> or S tudents must be enrolled in one of the following Program s: GCEN or METC or MEPR or GCNS or GDNS or MENS or GEPR
<a href="#">ELE3305 Computer Systems and Communications Protocols</a>		1				1		
<a href="#">ELE3506 Electronic Measurement</a>		2				2		Pre-requisite: ( <a href="#">ELE1502</a> and ( <a href="#">ELE2101</a> or <a href="#">ELE2103</a> ) and ( <a href="#">ELE2503</a> or <a href="#">ELE2504</a> )) or Students must be enrolled in one of the following Program s: GCEN or METC or MEPR or MENS
Approved Course (Select from minor or approved course list)		2				1		
Year 5 Practice Courses								
<a href="#">ELE3914 Electrical and Electronic Practice D</a>		1		3			M	Pre-requisite: ( <a href="#">ELE1801</a> and <a href="#">ELE1301</a> and <a href="#">ELE1502</a> ) or Students must be enrolled in one of the following Program s: MENS or MEPR
Year 6								
<a href="#">ELE3105 Computer Controlled Systems</a>		1				1		Pre-requisite: <a href="#">ELE2103</a> or S tudents must be enrolled in one of the following Program s: GCNS or GCEN or GDNS or MEPR or MENS or METC or GEPR
Approved Course (Select from minor or approved course list)		1				1		
<a href="#">ELE3107 Signal Processing</a>		2				2		
Approved Course (Select from minor or approved course list)		2				2		
Year 6 Practice Courses								
<a href="#">ELE3915 Electrical and Electronic Practice E</a>		2		2			M	Pre-requisite: <a href="#">ELE1801</a> and <a href="#">ELE1301</a> and <a href="#">ELE1502</a> or S tudents must be enrolled in one of the following Program s: MENS or MEPR

Major study: Electrical and Electronic Engineering (Major Study Code: 16925)									
Course	Year of program and semester in which course is normally studied						Residential school	Enrolment requirements	
	On-campus (ONC)		External (EXT)		Online (ONL)				
	Year	Sem	Year	Sem	Year	Sem			
Year 7									
ELE4605 Fields and Waves		1				1		Pre-requisite: {(MAT1502 or ENM1600) and ELE2103 and ELE2601} or Students must be enrolled in one of the following Programs: MEPR or MENS or GCNS or GDNS	
Approved Course (Select from minor or approved course list)		1				1			
ENG4110 Engineering Research Methodology		2				2			
ELE4606 Communication Systems		2				2		Pre-requisite: (ELE2504 and ELE2601) or Students must be enrolled in one of the following Programs: GCEN or METC or MEPR or MENS or GCNS or GDNS	
Year 7 Practice Courses									
ENG3902 Professional Practice 1				2			M	Pre-requisite: Students must be enrolled in one of the following Programs: BCNH or BCON or BEBB or BEBC or BEHB or BEHI or BEHS or BENG or BENH or MENS	
Year 8									
ENG3003 Engineering Management <sup>†</sup>		1,3				1,3			
ENG4111 Research Project Part 1		1				1		Pre-requisite: ENG3902 and ENG4110 and Students must be enrolled in one of the following Programs: BCNH or BCON or BEBB or BEBC or BEHB or BEHI or BEHS or BENG or BENH Undergraduate students must have completed 22 units in their program.	
Approved Course (Select from minor or approved course list)		2				2			
ENG4112 Research Project Part 2		1,2				1,2		Pre-requisite: ENG4111 and Students must be enrolled in one of the following Programs: BCNH or BCON or BEBB or BEBC or BEHB or BEHI or BEHS or BENG or BENH	
Year 8 Practice Courses									
ENG4903 Professional Practice 2		1		2			M	Pre-requisite: ENG3902 and Students must be enrolled in: BCNH or BCON or BEBB or BEBC or BEHB or BEHI or BEHS or BENG or BENH or MENS. Students cannot enrol in ENG3902 & ENG4903 in the same semester. Co-requi	

Major study: Electrical and Electronic Engineering (Major Study Code: 16925)								
Course	Year of program and semester in which course is normally studied						Residential school	Enrolment requirements
	On-campus (ONC)		External (EXT)		Online (ONL)			
	Year	Sem	Year	Sem	Year	Sem		
								site: <a href="#">ENG4111</a> or <a href="#">ENG4112</a> or <a href="#">ENG8411</a> or <a href="#">ENG8412</a>
<a href="#">ENG4909 Work Experience - Professional</a>						1,2,3		
<b>Select a minor study or approved courses from the following or other elective courses as approved by the Program Director</b>								
<a href="#">ELE2704 Electricity Supply Systems</a>		2				2		Pre-requisite: <a href="#">ELE1801</a> or S tudents must be enrolled in one of the following Program s: MEPR or GCEN or METC or GEPR
<a href="#">ELE4804 Power Systems Protection</a>						1		Pre-requisite: <a href="#">ELE1801</a> or S tudents must be enrolled in one of the following Program s: GCEN or METC or MEPR or GCNS or GDNS or MENS
<a href="#">ELE3805 Power Electronics Principles and Applications</a>		2				2		Pre-requisite: ( <a href="#">ELE1502</a> and <a href="#">ELE1801</a> ) or Students must be enrolled in one of the fol lowing Programs: GCEN or METC or MEPR or GCNS or GDNS or MENS
<a href="#">ELE4807 Power Systems Analysis</a>		1				1		
<a href="#">ELE4109 Measurement Science and Instrument Engineering *</a>						1		
<a href="#">ELE4607 Advanced Digital Communications</a>		1				1		Pre-requisite: <a href="#">ELE1301</a> or S tudents must be enrolled in one of the following Program s: GCEN or METC or GCNS or GDNS or MENS or MEPR
<a href="#">ELE5001 Industrial Communications Protocols</a>		1				1		Pre-requisite: <a href="#">ELE2601</a> or S tudents must be enrolled in the following Program: GCN S, GDNS, MENS or MEPR
<a href="#">CSC1401 Foundation Programming<sup>£</sup></a>		1,2				1,2,3		
<a href="#">CSC2402 Object-Oriented Programming in C++</a>		1				1		Pre-requisite: <a href="#">CSC1401</a> or Students must be enrolled in one of the following Program s: GDTI or GCSC or GCEN or METC or MCOT or MCTE or MCOP or MPIT or MCTN
<a href="#">CIV1501 Engineering Statics</a>		2				2,3		Pre-requisite: <a href="#">ENM1600</a> or ( <a href="#">ENM1500</a> and <a href="#">CIV1500</a> ) or Students must be enrolled in one of the following Program s: MEPR or GCEN or GEPR
<a href="#">MEC2106 Introduction to Thermofluids</a>		2				2		Pre-requisite: <a href="#">CIV1500</a> or <a href="#">CIV1501</a> or Students must be enrolled in one of the follow ing Programs: BENH or BE BC or BEHS or GCEN or MENS or GEPR
<a href="#">MEC2401 Dynamics I</a>		1				1		Pre-requisite: (( <a href="#">MAT1502</a> or <a href="#">MAT1102</a> or <a href="#">ENM1600</a> ) and <a href="#">CIV1501</a> ) or Students must

Major study: Electrical and Electronic Engineering (Major Study Code: 16925)								
Course	Year of program and semester in which course is normally studied						Residential school	Enrolment requirements
	On-campus (ONC)		External (EXT)		Online (ONL)			
	Year	Sem	Year	Sem	Year	Sem		
								be enrolled in one of the following Programs: GCEN or GCNS or METC or MEPR or MENS or GEPR
<a href="#">MEC2402 Stress Analysis</a>		1				1		Pre-requisite: <a href="#">CIV1501</a> or Students must be enrolled in one of the following Programs: GCEN or METC or MEPR or GCNS or GDNS or MENS or GEPR
<a href="#">MEC2501 Process Control Systems</a>						2		Pre-requisite: <a href="#">ELE2103</a> or ( <a href="#">MEC1501</a> and <a href="#">ELE2101</a> as Co-requisite or Pre-requisite) or Students must be enrolled in the following Program: GEPR
<a href="#">MEC3204 Production Engineering</a>		2				2		
<a href="#">MEC4104 Renewable Energy Technology</a>		2				2		Pre-requisite: (( <a href="#">MEC2101</a> and <a href="#">MEC3102</a> ) or <a href="#">MEC2106</a> ) or Students must be enrolled in one of the following Programs: GCEN or GCNS or GDNS or METC or MENS or MEPR
<a href="#">MEC4406 Robotics and Machine Vision</a>		2				2		Pre-requisite: <a href="#">MEC2401</a> or <a href="#">ELE2103</a> or Students must be enrolled in one of the following Programs: MENS or GCEN
<a href="#">ENG4004 Engineering Project and Operations Management<sup>‡</sup></a>		3				2,3		
<a href="#">CHE1110 Chemistry 1<sup>^</sup></a>		1		1			HR	

#### Footnotes

- § Unavailable online in S3 2023  
 ~ Unavailable in On-Campus mode in S2 2023  
 # Unavailable in External mode in S3 2023  
 † The semester 3 offering of this course is offered in odd numbered years only.  
 \* Offered in odd years only e.g. 2021, 2023 etc  
 £ In Semester 3, 2023 this course will be delivered as a Transition (9 week) semester, commencing on 13 November 2023 and concluding on 12 January 2024  
 ‡ The semester 3 offering of this course is offered in even numbered years only.  
 ^ [CHE1110 Chemistry 1](#) has a highly recommended residential school requirement in External mode.

### Environmental Engineering major full-time recommended enrolment pattern

To satisfy the requirements of the program students must complete all of the Academic and Practice courses in the following table that shows the recommended enrolment patterns for on-campus and external students

for our Toowoomba campus. Students following a non-standard enrolment pattern should click on the course link in the table below to ascertain if a course is offered in another term.

Major study: Environmental Engineering (Major Study Code: 16926)									
Course	Year of program and semester in which course is normally studied						Residential school	Enrolment requirements	
	On-campus (ONC)		External (EXT)		Online (ONL)				
	Year	Sem	Year	Sem	Year	Sem			
Academic Courses Year 1									
ENG1002 Introduction to Engineering and Built Environment Applications	1	1				1,2			
ENM1600 Engineering Mathematics	1	1				1,2		Enrolment is not permitted in <a href="#">ENM1600</a> if <a href="#">MAT1102</a> or <a href="#">MAT1502</a> has been previously completed	
ENG1004 Engineering Problem Solving Principles	1	1				1,2			
MEC1201 Engineering Materials	1	1				1,2,3			
CIV1501 Engineering Statics	1	2				2,3		Pre-requisite: <a href="#">ENM1600</a> or ( <a href="#">ENM1500</a> and <a href="#">CIV1500</a> ) or Students must be enrolled in one of the following Programs: MEPR or GCEN or GEPR	
ENG1100 Introduction to Engineering Design	1	2				1,2			
ENG2002 Technology, Sustainability and Society	1	2				1,2,3			
SVY1500 Spatial Science for Engineers	1	2				2			
Practice Courses Year 1									
ENG1901 Engineering Practice 1	1	1,2		2,3			M		
Academic Courses Year 2									
ENV2201 Land Studies	2	1				1			
ENM2600 Advanced Engineering Mathematics <sup>§</sup>	2	1				1,3		Pre-requisite: <a href="#">ENM1600</a> or Students must be enrolled in one of the following Programs: GCEN or METC or MENS or GDNS or MEPR or MSCN	
ENV2103 Hydraulics I	2	1				1		Pre-requisite: <a href="#">CIV1500</a> or <a href="#">CIV1501</a> or Students must be enrolled in the following Program: GCEN or GEPR	
ENV2105 Applied Chemistry and Microbiology	2	1				1			
Approved Course (Select from minor or approved course list)	2	2				1,2,3			
ENG3104 Engineering Simulations and Computations	2	2				2		Pre-requisite: ( <a href="#">ENM2600</a> or <a href="#">MAT2100</a> or <a href="#">MAT2500</a> ) or Students must be enrolled in one of the following Programs: GDET or METC or GDNS or MENS	
CIV2403 Geology and Geomechanics	2	2				2		Pre-requisite: <a href="#">CIV1501</a> or <a href="#">CIV1500</a> or Students must be enrolled in one of the following Programs: MENS or GCEN or GEPR	
Approved Course (Select from minor or approved course list)	2	2				2			
Practice Courses Year 2									
CIV2901 Geology and Geomechanics Practice	2	2		2,3			M	Pre-requisite or Co-requisite: <a href="#">ENG1901</a> and <a href="#">CIV2403</a>	



Major study: Environmental Engineering (Major Study Code: 16926)								
Course	Year of program and semester in which course is normally studied						Residential school	Enrolment requirements
	On-campus (ONC)		External (EXT)		Online (ONL)			
	Year	Sem	Year	Sem	Year	Sem		
<a href="#">ENV2902 Hydraulics Practice</a>	2	2		1,2,3			M	Pre-requisite or Co-requisite: <a href="#">ENV2103</a> or ENV1101
<a href="#">AGR2902 Field Practice</a> ^				3			M	
Academic Courses Year 3								
<a href="#">AGR3304 Soil Science</a>	3	1				1		
<a href="#">ENV3104 Hydraulics II</a>	3	1				1		Pre-requisite: ENV1101 or <a href="#">ENV2103</a> or Students must be enrolled in one of the following Programs: GCEN or METC or MEPR or GCNS or GDNS or MENS
<a href="#">ENG3003 Engineering Management</a> †	3	1				1,3		
Approved Course (Select from minor or approved course list)	3	1				1		
<a href="#">ENV3103 Environmental Pollution</a>	3	2				2		Pre-requisite: <a href="#">ENV2105</a> and <a href="#">ENV2103</a> or Students must be enrolled in one of the following Programs: GCEN or METC or MEPR or GCNS or GDNS or MENS or GEPR
<a href="#">ENV3105 Hydrology</a>	3	2				2		
<a href="#">ENV4203 Public Health Engineering</a>	3	2				2		Pre-requisite: ENV1101 or <a href="#">ENV2103</a> or Students must be enrolled in one of the following Programs: GCEN or METC or MEPR or GCNS or GDNS or MENS
<a href="#">ENG4110 Engineering Research Methodology</a>	3	2				2		
Practice Courses Year 3								
<a href="#">AGR3903 Soil and Water Engineering Practice 2</a>				2			M	
<a href="#">ENV3904 Environmental Engineering Practice</a>				3			M	Pre-requisite: <a href="#">ENV4203</a> or Students must be enrolled in one of the following Programs: GDNS or MENS or MEPR or GEPR
<a href="#">ENG3902 Professional Practice 1</a>				2			M	Pre-requisite: Students must be enrolled in one of the following Programs: BCNH or BCON or BEBB or BEBC or BEHB or BEHI or BEHS or BENG or BENH or MENS
Academic Courses Year 4								
<a href="#">ENV4204 Environmental Technology</a>	4	1				1		Pre-requisite: <a href="#">ENV2105</a> or Students must be enrolled in one of the following Programs: PDEV or GCEN or METC or MEPR or GCNS or GDNS or MENS
Approved Course (Select from minor or approved course list)	4	1				1		
<a href="#">ENG4111 Research Project Part 1</a>	4	1				1		Pre-requisite: <a href="#">ENG3902</a> and <a href="#">ENG4110</a> and Students must

Major study: Environmental Engineering (Major Study Code: 16926)								
Course	Year of program and semester in which course is normally studied						Residential school	Enrolment requirements
	On-campus (ONC)		External (EXT)		Online (ONL)			
	Year	Sem	Year	Sem	Year	Sem		
								be enrolled in one of the following Programs: BCNH or BCON or BEBB or BEBC or BEHB or BEHI or BEHS or BENG or BENH Undergraduate students must have completed 22 units in their program.
<a href="#">ENV4205 Water and Wastewater Treatment</a>						1		Pre-requisite: <a href="#">ENV4203</a> and <a href="#">ENV2105</a> or Students must be enrolled in one of the following Programs: PDEV or GCEN or METC or MEPR or GCNS or GDNS or MENS
Approved Course (Select from minor or approved course list)	4	2				2		
<a href="#">ENV4106 Irrigation Science</a>	4	2				2		Pre-requisite: <a href="#">AGR3304</a> or Students must be enrolled in one of the following Programs: GCEN or GCSC or GDSI or METC or MEPR or GCNS or GDNS or MENS or MSCN.
<a href="#">ENV4107 Water Resources Engineering</a>	4	2				2		Pre-requisite: ( <a href="#">ENV3104</a> and <a href="#">ENV3105</a> ) or Students must be enrolled in one of the following Programs: GCEN or METC or MEPR or GCNS or GDNS or MENS
<a href="#">ENG4112 Research Project Part 2</a>	4	2				1,2		Pre-requisite: <a href="#">ENG4111</a> and Students must be enrolled in one of the following Programs: BCNH or BCON or BEBB or BEBC or BEHB or BEHI or BEHS or BENG or BENH
<b>Practice Courses Year 4</b>								
<a href="#">ENG4903 Professional Practice 2</a>	4	1		2			M	Pre-requisite: <a href="#">ENG3902</a> and Students must be enrolled in: BCNH or BCON or BEBB or BEBC or BEHB or BEHI or BEHS or BENG or BENH or MENS. Students cannot enrol in <a href="#">ENG3902</a> & <a href="#">ENG4903</a> in the same semester. Co-requisite: <a href="#">ENG4111</a> or <a href="#">ENG4112</a> or <a href="#">ENG8411</a> or <a href="#">ENG8412</a>
<a href="#">ENG4909 Work Experience - Professional</a>						1,2,3		
<b>Select a minor study or approved courses from the following or other elective courses as approved by the Program Director</b>								
<a href="#">AGR3305 Precision and Smart Technologies in Agriculture</a>		2				2		
<a href="#">CLI1110 Weather and Climate</a>		1				1		
<a href="#">CHE1110 Chemistry 1</a> ~		1		1			HR	
<a href="#">CHE2120 Chemistry 2</a> ~		2		2			HR	Pre-requisite: <a href="#">CHE1110</a>

Major study: Environmental Engineering (Major Study Code: 16926)								
Course	Year of program and semester in which course is normally studied						Residential school	Enrolment requirements
	On-campus (ONC)		External (EXT)		Online (ONL)			
	Year	Sem	Year	Sem	Year	Sem		
<a href="#">CIV3403 Geotechnical Engineering</a>		2				2		Pre-requisite: CIV2401 or <a href="#">CIV2403</a> or Students must be enrolled in one of the following Programs: GCEN or METC or MEPR or GCNS or GDNS or MENS
<a href="#">CIV3703 Transport Engineering</a>		2				2		
<a href="#">ECO1002 Market Behaviour</a>		2				2		Enrolment is not permitted in <a href="#">ECO1002</a> if ECO1000 has been previously completed
<a href="#">ENG4004 Engineering Project and Operations Management<sup>†</sup></a>		3				2,3		
<a href="#">MEC5100 Computational Fluid Dynamics</a>						1		Pre-requisite: <a href="#">MEC3107</a> or MEC3102 or <a href="#">MEC4108</a> or <a href="#">MEC5107</a> or <a href="#">ENV3104</a> or <a href="#">ENV5104</a> or Students must be enrolled in the following Program: MEPR
<a href="#">GIS1402 Geographic Information Systems<sup>£</sup></a>		1				1,3		
<a href="#">LAW2107 Environmental Law<sup>**</sup></a>						2		Pre-requisite: <a href="#">LAW1501</a> or LAW1101 or LAW1500 or <a href="#">ENG2002</a> or <a href="#">REN1201</a> or (Students enrolled in BEDU (Legal Studies) or BLAW or LLBP or BALW or BCLW or BZLW - Pre-requisite: <a href="#">LAW1111</a> )
<a href="#">MAT2200 Operations Research 1</a>		2				2		Pre-requisite: <a href="#">MAT1102</a> or <a href="#">ENM1600</a> or equivalent or approval from the examiner. Enrolment is not permitted in <a href="#">MAT2200</a> if MAT1200 has been previously completed.
<a href="#">URP3201 Sustainable Urban Design and Development</a>		2				2		
<a href="#">SVY3202 Photogrammetry and Remote Sensing</a>		1				1		
<a href="#">URP1001 Introduction to Urban and Regional Planning</a>		1				1		

#### Footnotes

- § Unavailable online in S3 2023
- ^ The residential school for this course may involve overnight field trips for which each student will be responsible for their own accommodation costs.
- † The semester 3 offering of this course is offered in odd numbered years only.
- ~ [CHE1110](#) and [CHE2120](#) have a highly recommended residential school component in external mode.
- ‡ The semester 3 offering of this course is offered in even numbered years only.
- £ In Semester 3, 2023 this course will be delivered as a Transition (9 week) semester, commencing on 13 November 2023 and concluding on 12 January 2024
- \*\* Course is offered in the interim trimester layer, please consult for interim trimester dates.

## Environmental Engineering major part-time recommended enrolment pattern

Major study: Environmental Engineering (Major Study Code: 16926)								
Course	Year of program and semester in which course is normally studied						Residential school	Enrolment requirements
	On-campus (ONC)		External (EXT)		Online (ONL)			
	Year	Sem	Year	Sem	Year	Sem		
Year 1								
ENG1002 Introduction to Engineering and Built Environment Applications		1,2				1,2		
ENM1600 Engineering Mathematics		1,2				1,2		Enrolment is not permitted in ENM1600 if MAT1102 or MAT1502 has been previously completed
SVY1500 Spatial Science for Engineers		2				2		
MEC1201 Engineering Materials		1,2				1,2,3		
Year 1 Practice Courses								
ENG1901 Engineering Practice 1		1,2		2,3			M	
Year 2								
ENG1100 Introduction to Engineering Design		1,2				1,2		
CIV1501 Engineering Statics		2				2,3		Pre-requisite: ENM1600 or (ENM1500 and CIV1500) or Students must be enrolled in one of the following Programs: MEPR or GCEN or GEPR
ENG1004 Engineering Problem Solving Principles		1				1,2		
ENG2002 Technology, Sustainability and Society		1,2				1,2,3		
Year 3								
ENM2600 Advanced Engineering Mathematics <sup>§</sup>		1				1,3		Pre-requisite: ENM1600 or Students must be enrolled in one of the following Programs: GCEN or METC or MENS or GDNS or MEPR or MSCN
ENV2103 Hydraulics I		1				1		Pre-requisite: CIV1500 or CIV1501 or Students must be enrolled in the following Program: GCEN or GEPR
Approved Course (Select from minor or approved course list)								
CIV2403 Geology and Geomechanics		2				2		Pre-requisite: CIV1501 or CIV1500 or Students must be enrolled in one of the following Programs: MENS or GCEN or GEPR
Year 3 Practice Courses								
ENV2902 Hydraulics Practice		2		1,2,3			M	Pre-requisite or Co-requisite: ENV2103 or ENV1101
Year 4								
ENV2105 Applied Chemistry and Microbiology		1				1		
ENV2201 Land Studies		1				1		
ENG3104 Engineering Simulations and Computations		2				2		Pre-requisite: (ENM2600 or MAT2100 or MAT2500) or Students must be enrolled in one of the following Programs:

Major study: Environmental Engineering (Major Study Code: 16926)									
Course	Year of program and semester in which course is normally studied						Residential school	Enrolment requirements	
	On-campus (ONC)		External (EXT)		Online (ONL)				
	Year	Sem	Year	Sem	Year	Sem			
								s: GDET or METC or GDNS or MENS	
Approved Course (Select from minor or approved course list)		2				2,3			
Year 4 Practice Courses									
CIV2901 Geology and Geomechanics Practice		2		2,3			M	Pre-requisite or Co-requisite: ENG1901 and CIV2403	
Year 5									
ENV3104 Hydraulics II		1				1		Pre-requisite: ENV1101 or ENV2103 or Students must be enrolled in one of the following Programs: GCEN or METC or MEPR or GCNS or GDNS or MENS	
AGR3304 Soil Science		1				1			
ENV3103 Environmental Pollution		2				2		Pre-requisite: ENV2105 and ENV2103 or Students must be enrolled in one of the following Programs: GCEN or METC or MEPR or GCNS or GDNS or MENS or GEPR	
ENV3105 Hydrology		2				2			
Year 5 Practice Courses									
AGR2902 Field Practice ^				3			M		
Year 6									
ENV4203 Public Health Engineering		2				2		Pre-requisite: ENV1101 or ENV2103 or Students must be enrolled in one of the following Programs: GCEN or METC or MEPR or GCNS or GDNS or MENS	
ENG3003 Engineering Management †		1,3				1,3			
ENV4106 Irrigation Science		2				2		Pre-requisite: AGR3304 or Students must be enrolled in one of the following Program s: GCEN or GCSC or GDSI or METC or MEPR or GCNS or GDNS or MENS or MSCN.	
Approved Course (Select from minor or approved course list)									
Year 6 Practice Courses									
ENV3904 Environmental Engineering Practice				3			M	Pre-requisite: ENV4203 or Students must be enrolled in one of the following Program s: GDNS or MENS or MEPR or GEPR	
Year 7									
ENV4204 Environmental Technology		1				1		Pre-requisite: ENV2105 or Students must be enrolled in one of the following Program	

Major study: Environmental Engineering (Major Study Code: 16926)								
Course	Year of program and semester in which course is normally studied						Residential school	Enrolment requirements
	On-campus (ONC)		External (EXT)		Online (ONL)			
	Year	Sem	Year	Sem	Year	Sem		
								s: PDEV or GCEN or METC or MEPR or GCNS or GDNS or MENS
ENV4107 Water Resources Engineering		2				2		Pre-requisite: (ENV3104 and ENV3105) or Students must be enrolled in one of the following Programs: GCEN or METC or MEPR or GCNS or GDNS or MENS
ENG4110 Engineering Research Methodology		2				2		
ENV4205 Water and Wastewater Treatment						1		Pre-requisite: ENV4203 and ENV2105 or Students must be enrolled in one of the following Programs: PDEV or GCEN or METC or MEPR or GCNS or GDNS or MENS
Year 7 Practice Courses								
AGR3903 Soil and Water Engineering Practice 2				2			M	
ENG3902 Professional Practice 1				2			M	Pre-requisite: Students must be enrolled in one of the following Programs: BCNH or BCON or BEBB or BEBC or BEHB or BEHI or BEHS or BENG or BENH or MENS
Year 8								
ENG4111 Research Project Part 1		1				1		Pre-requisite: ENG3902 and ENG4110 and Students must be enrolled in one of the following Programs: BCNH or BCON or BEBB or BEBC or BEHB or BEHI or BEHS or BENG or BENH Undergraduate students must have completed 22 units in their program.
Approved Course (Select from minor or approved course list)								
ENG4112 Research Project Part 2		1,2				1,2		Pre-requisite: ENG4111 and Students must be enrolled in one of the following Programs: BCNH or BCON or BEBB or BEBC or BEHB or BEHI or BEHS or BENG or BENH
Approved Course (Select from minor or approved course list)								
Year 8 Practice Courses								
ENG4903 Professional Practice 2		1		2			M	Pre-requisite: ENG3902 and Students must be enrolled in: BCNH or BCON or BEBB or BEBC or BEHB or BEHI or BEHS or BENG or BENH or MENS. Students cannot enrol in ENG3902 & ENG4903 in the same semester. Co-requi

Major study: Environmental Engineering (Major Study Code: 16926)								
Course	Year of program and semester in which course is normally studied						Residential school	Enrolment requirements
	On-campus (ONC)		External (EXT)		Online (ONL)			
	Year	Sem	Year	Sem	Year	Sem		
								site: <a href="#">ENG4111</a> or <a href="#">ENG4112</a> or <a href="#">ENG8411</a> or <a href="#">ENG8412</a>
<a href="#">ENG4909 Work Experience - Professional</a>						1,2,3		
<b>Select a minor study or approved courses from the following or other elective courses as approved by the Program Director</b>								
<a href="#">AGR3305 Precision and Smart Technologies in Agriculture</a>		2				2		
<a href="#">CLI1110 Weather and Climate</a>		1				1		
<a href="#">CHE1110 Chemistry 1</a> ~		1		1			HR	
<a href="#">CHE2120 Chemistry 2</a> ~		2		2			HR	Pre-requisite: <a href="#">CHE1110</a>
<a href="#">CIV3403 Geotechnical Engineering</a>		2				2		Pre-requisite: <a href="#">CIV2401</a> or <a href="#">CIV2403</a> or Students must be enrolled in one of the following Programs: GCEN or METC or MEPR or GCNS or GDNS or MENS
<a href="#">CIV3703 Transport Engineering</a>		2				2		
<a href="#">ECO1002 Market Behaviour</a>		2				2		Enrolment is not permitted in <a href="#">ECO1002</a> if <a href="#">ECO1000</a> has been previously completed
<a href="#">ENG4004 Engineering Project and Operations Management</a> ‡		3				2,3		
<a href="#">MEC5100 Computational Fluid Dynamics</a>						1		Pre-requisite: <a href="#">MEC3107</a> or <a href="#">MEC3102</a> or <a href="#">MEC4108</a> or <a href="#">MEC5107</a> or <a href="#">ENV3104</a> or <a href="#">ENV5104</a> or Students must be enrolled in the following Program: MEPR
<a href="#">GIS1402 Geographic Information Systems</a> £		1				1,3		
<a href="#">LAW2107 Environmental Law</a> **						2		Pre-requisite: <a href="#">LAW1501</a> or <a href="#">LAW1101</a> or <a href="#">LAW1500</a> or <a href="#">ENG2002</a> or <a href="#">REN1201</a> or (Students enrolled in BEDU (Legal Studies) or BLAW or LLBP or BALW or BCLW or BZLW - Pre-requisite: <a href="#">LAW1111</a> )
<a href="#">MAT2200 Operations Research 1</a>		2				2		Pre-requisite: <a href="#">MAT1102</a> or <a href="#">ENM1600</a> or equivalent or approval from the examiner. Enrolment is not permitted in <a href="#">MAT2200</a> if <a href="#">MAT1200</a> has been previously completed.
<a href="#">URP3201 Sustainable Urban Design and Development</a>		2				2		
<a href="#">SVY3202 Photogrammetry and Remote Sensing</a>		1				1		
<a href="#">URP1001 Introduction to Urban and Regional Planning</a>		1				1		

#### Footnotes

§ Unavailable online in S3 2023

^ The residential school for this course may involve overnight field trips for which each student will be responsible for their own accommodation costs.

† The semester 3 offering of this course is offered in odd numbered years only.

~ [CHE1110](#) and [CHE2120](#) have a highly recommended residential school component in external mode.

‡ The semester 3 offering of this course is offered in even numbered years only.

£ In Semester 3, 2023 this course will be delivered as a Transition (9 week) semester, commencing on 13 November 2023 and concluding on 12 January 2024

\*\* Course is offered in the interim trimester layer, please consult for interim trimester dates.

## Instrumentation Control and Automation Engineering major full-time recommended enrolment pattern

To satisfy the requirements of the program students must complete all of the Academic and Practice courses in the following table that shows the recommended enrolment patterns for on-campus and external students for our Toowoomba campus. Students following a non-standard enrolment pattern should click on the course link in the table below to ascertain if a course is offered in another term.

Major study: Instrumentation Control and Automation Engineering (Major Study Code: 17741)								
Course	Year of program and semester in which course is normally studied						Residential school	Enrolment requirements
	On-campus (ONC)		External (EXT)		Online (ONL)			
	Year	Sem	Year	Sem	Year	Sem		
Academic Courses Year 1								
ENM1600 Engineering Mathematics		1,2				1,2		Enrolment is not permitted in ENM1600 if MAT1102 or MAT1502 has been previously completed
ENG1004 Engineering Problem Solving Principles		1				1,2		
ELE1301 Computer Engineering		1				1		
ELE1502 Electronic Circuits		1				1		
ENG1002 Introduction to Engineering and Built Environment Applications		1,2				1,2		
ENG1100 Introduction to Engineering Design		1,2				1,2		
MEC1201 Engineering Materials		1,2				1,2,3		
ELE1801 Electrical Technology <sup>§</sup>		2				2,3		Pre-requisite: ENM1500 or ENM1600 or Students must be enrolled in one of the following Programs: MEPR or GCEN or GEPR
Practice Courses Year 1								
ENG1901 Engineering Practice 1		1,2		2,3			M	
ELE1911 Electrical and Electronic Practice A <sup>~#</sup>		2		3			M	
Academic Courses Year 2								
ENM2600 Advanced Engineering Mathematics <sup>§</sup>		1				1,		Pre-requisite: ENM1600 or Students must be enrolled in one of the following Programs: GCEN or METC or MENS or GDNS or MEPR or MSCN
ELE2303 Embedded Systems Design		1				1		Pre-requisite: ELE1301
ENG2002 Technology, Sustainability and Society		1,2				1,2,3		
Approved Course (Select from minor or approved course list)		1				1		
ENG3104 Engineering Simulations and Computations		2				2		Pre-requisite: (ENM2600 or MAT2100 or MAT2500) or Students must be enrolled in one of the following Programs: GDET or METC or GDNS or MENS
ELE2103 Linear Systems and Control		2				2		
ELE2504 Electronic Design and Analysis		2				2		Pre-requisite: ELE1502 or Students must be enrolled in one of the following Programs: MEPR or GDNS or MENS



Major study: Instrumentation Control and Automation Engineering (Major Study Code: 17741)								
Course	Year of program and semester in which course is normally studied						Residential school	Enrolment requirements
	On-campus (ONC)		External (EXT)		Online (ONL)			
	Year	Sem	Year	Sem	Year	Sem		
								or GCNS or GCEN or GEPR Students cannot be enrolled in <a href="#">ELE2503</a> and <a href="#">ELE2504</a> in the same semester
<a href="#">MEC2106 Introduction to Thermofluids</a>		2				2		Pre-requisite: <a href="#">CIV1500</a> or <a href="#">CIV1501</a> or Students must be enrolled in one of the following Programs: BENH or BE BC or BEHS or GCEN or MENS or GEPR
<b>Practice Courses Year 2</b>								
<a href="#">ELE2912 Electrical and Electronic Practice B<sup>#</sup></a>		1		3			M	Pre-requisite: ( <a href="#">ELE1301</a> and <a href="#">ELE1502</a> and <a href="#">ELE1801</a> ) or Students must be enrolled in one of the following Program s: GDNS or MENS
<a href="#">ELE2913 Electrical and Electronic Practice C</a>						2		Pre-requisite: ( <a href="#">ELE1301</a> and <a href="#">ELE1502</a> and <a href="#">ELE1801</a> ) or Students must be enrolled in one of the following Program s: GDNS or MENS
<b>Academic Courses Year 3</b>								
<a href="#">MEC3107 Thermofluids</a>		1				1		Pre-requisite: ( <a href="#">MEC2106</a> and <a href="#">ENM1600</a> ) or Students must be enrolled in one of the following Programs: GCNS or GDNS Enrolment is not permitted in <a href="#">MEC3107</a> if <a href="#">MEC2101</a> or <a href="#">MEC3102</a> have been previously completed
<a href="#">ENG3003 Engineering Management<sup>†</sup></a>		1				1,3		
<a href="#">ELE3105 Computer Controlled Systems</a>		1				1		Pre-requisite: <a href="#">ELE2103</a> or Students must be enrolled in one of the following Program s: GCNS or GCEN or GDNS or MEPR or MENS or METC or GEPR
<a href="#">ELE4109 Measurement Science and Instrument Engineering<sup>&gt;</sup></a>						1		
<a href="#">ELE4307 Real Time Systems</a>		2				2		Pre-requisite: <a href="#">ELE1301</a> or Students must be enrolled in one of the following Program s: GCNS or GDNS or MENS or MEPR
<a href="#">MEC2501 Process Control Systems</a>						2		Pre-requisite: <a href="#">ELE2103</a> or ( <a href="#">MEC1501</a> and <a href="#">ELE2101</a> as Co-requisite or Pre-requisite) or Students must be enrolled in the following Program: GEPR
<a href="#">ELE3506 Electronic Measurement</a>		2				2		Pre-requisite: ( <a href="#">ELE1502</a> and ( <a href="#">ELE2101</a> or <a href="#">ELE2103</a> ) and ( <a href="#">ELE2503</a> or <a href="#">ELE2504</a> )) or Students must be enrolled in

Major study: Instrumentation Control and Automation Engineering (Major Study Code: 17741)								
Course	Year of program and semester in which course is normally studied						Residential school	Enrolment requirements
	On-campus (ONC)		External (EXT)		Online (ONL)			
	Year	Sem	Year	Sem	Year	Sem		
								one of the following Program s: GCEN or METC or MEPR or MENS
ENG4110 Engineering Research Methodology		2				2		
Practice Courses Year 3								
ELE3914 Electrical and Electronic Practice D		1		3			M	Pre-requisite: (ELE1801 and ELE1301 and ELE1502) or Students must be enrolled in one of the following Program s: MENS or MEPR
MEC3905 Mechatronic Practice				2			M	
ENG3902 Professional Practice 1				2			M	Pre-requisite: Students must be enrolled in one of the following Programs: BCNH or BCON or BEBB or BEBC or BEHB or BEHI or BEHS or BENG or BENH or MENS
Academic Courses Year 4								
MEC4108 Advanced Thermofluids		1				1		Pre-requisite: (MEC3107 & ENM2600 & ENG3104) or Students must be enrolled in one of the following Programs: MENS or MEPR or GCNS or GDNS or GEPR Students cannot enrol in MEC4108 if they have successfully completed, or are currently enrolled in, MEC4103
Approved Course (Select from minor or approved course list)		1				1		
ELE4506 Industrial Process Automation						1		Pre-requisite: (ELE2101 or ELE2103) and ELE3105 and MEC2501 or Students must be enrolled in the following program: GCNS or GDNS or MENS or MEPR
ENG4111 Research Project Part 1		1				1		Pre-requisite: ENG3902 and ENG4110 and Students must be enrolled in one of the following Programs: BCNH or BCON or BEBB or BEBC or BEHB or BEHI or BEHS or BENG or BENH Undergraduate students must have completed 22 units in their program.
MEC4406 Robotics and Machine Vision		2				2		Pre-requisite: MEC2401 or ELE2103 or Students must be enrolled in one of the following Programs: MENS or GCEN
Approved Course (Select from minor or approved course list)		2				2		
Approved Course (Select from minor or approved course list)		2				2		

Major study: Instrumentation Control and Automation Engineering (Major Study Code: 17741)								
Course	Year of program and semester in which course is normally studied						Residential school	Enrolment requirements
	On-campus (ONC)		External (EXT)		Online (ONL)			
	Year	Sem	Year	Sem	Year	Sem		
ENG4112 Research Project Part 2		1,2				1,2		Pre-requisite: <a href="#">ENG4111</a> and Students must be enrolled in one of the following Programs: BCNH or BCON or BEBB or BEBC or BEHB or BEHI or BEHS or BENG or BENH
Practice Courses Year 4								
ENG4903 Professional Practice 2		1		2			M	Pre-requisite: <a href="#">ENG3902</a> and Students must be enrolled in: BCNH or BCON or BEBB or BEBC or BEHB or BEHI or BEHS or BENG or BENH or MENS. Students cannot enrol in <a href="#">ENG3902</a> & <a href="#">ENG4903</a> in the same semester. Co-requisite: <a href="#">ENG4111</a> or <a href="#">ENG4112</a> or <a href="#">ENG8411</a> or <a href="#">ENG8412</a>
ENG4909 Work Experience - Professional						1,2,3		
Select a minor study or approved courses from the following or other elective courses as approved by the Program Director								
<a href="#">ELE2601 Telecommunications Principles</a>		1				1		Pre-requisite: ( <a href="#">ELE1502</a> and <a href="#">ELE1801</a> ) or Students must be enrolled in one of the following Programs: GCEN or METC or GEPR
<a href="#">ELE2704 Electricity Supply Systems</a>		2				2		Pre-requisite: <a href="#">ELE1801</a> or Students must be enrolled in one of the following Programs: MEPR or GCEN or METC or GEPR
<a href="#">ELE3107 Signal Processing</a>		2				2		
<a href="#">ELE3305 Computer Systems and Communications Protocols</a>		1				1		
<a href="#">ELE3803 Electrical Plant</a>		1				1		Pre-requisite: <a href="#">ELE1801</a> or Students must be enrolled in one of the following Programs: GCEN or METC or MEPR or GCNS or GDNS or MENS or GEPR
<a href="#">ELE4804 Power Systems Protection</a>						1		Pre-requisite: <a href="#">ELE1801</a> or Students must be enrolled in one of the following Programs: GCEN or METC or MEPR or GCNS or GDNS or MENS
<a href="#">ELE3805 Power Electronics Principles and Applications</a>		2				2		Pre-requisite: ( <a href="#">ELE1502</a> and <a href="#">ELE1801</a> ) or Students must be enrolled in one of the following Programs: GCEN or METC or MEPR or GCNS or GDNS or MENS
<a href="#">ELE4606 Communication Systems</a>		2				2		Pre-requisite: ( <a href="#">ELE2504</a> and <a href="#">ELE2601</a> ) or Students must be enrolled in one of the following Programs: GCEN or

Major study: Instrumentation Control and Automation Engineering (Major Study Code: 17741)								
Course	Year of program and semester in which course is normally studied						Residential school	Enrolment requirements
	On-campus (ONC)		External (EXT)		Online (ONL)			
	Year	Sem	Year	Sem	Year	Sem		
								METC or MEPR or MENS or GCNS or GDNS
<a href="#">ELE4607 Advanced Digital Communications</a>		1				1		Pre-requisite: <a href="#">ELE1301</a> or Students must be enrolled in one of the following Programs: GCEN or METC or GCNS or GDNS or MENS or MEPR
<a href="#">ELE5001 Industrial Communications Protocols</a>		1				1		Pre-requisite: <a href="#">ELE2601</a> or Students must be enrolled in the following Program: GCNS, GDNS, MENS or MEPR
<a href="#">CSC1401 Foundation Programming<sup>£</sup></a>		1,2				1,2,3		
<a href="#">CSC2402 Object-Oriented Programming in C++</a>		1				1		Pre-requisite: <a href="#">CSC1401</a> or Students must be enrolled in one of the following Programs: GDTI or GCSC or GCEN or METC or MCOT or MCTE or MCOP or MPIT or MCTN
<a href="#">ENG4004 Engineering Project and Operations Management<sup>‡</sup></a>		3				2,3		
<a href="#">CIV1501 Engineering Statics</a>		2				2,3		Pre-requisite: <a href="#">ENM1600</a> or ( <a href="#">ENM1500</a> and <a href="#">CIV1500</a> ) or Students must be enrolled in one of the following Programs: MEPR or GCEN or GEPR
<a href="#">MEC2202 Manufacturing Processes</a>		1				1		Pre-requisite: <a href="#">MEC1201</a> or Students must be enrolled in one of the following Programs: MEPR or GCEN
<a href="#">MEC2401 Dynamics I</a>		1				1		Pre-requisite: (( <a href="#">MAT1502</a> or <a href="#">MAT1102</a> or <a href="#">ENM1600</a> ) and <a href="#">CIV1501</a> ) or Students must be enrolled in one of the following Programs: GCEN or GCNS or METC or MEPR or MENS or GEPR
<a href="#">MEC2402 Stress Analysis</a>		1				1		Pre-requisite: <a href="#">CIV1501</a> or Students must be enrolled in one of the following Programs: GCEN or METC or MEPR or GCNS or GDNS or MENS or GEPR
<a href="#">MEC3204 Production Engineering</a>		2				2		
<a href="#">MEC4104 Renewable Energy Technology</a>		2				2		Pre-requisite: (( <a href="#">MEC2101</a> and <a href="#">MEC3102</a> ) or <a href="#">MEC2106</a> ) or Students must be enrolled in one of the following Programs: GCEN or GCNS or GDNS or METC or MENS or MEPR
<a href="#">MEC5100 Computational Fluid Dynamics</a>						1		Pre-requisite: <a href="#">MEC3107</a> or <a href="#">MEC3102</a> or <a href="#">MEC4108</a> or <a href="#">MEC5107</a> or <a href="#">ENV3104</a> or <a href="#">ENV5104</a> or Students must be enrolled in the following Program: MEPR

Major study: Instrumentation Control and Automation Engineering (Major Study Code: 17741)								
Course	Year of program and semester in which course is normally studied						Residential school	Enrolment requirements
	On-campus (ONC)		External (EXT)		Online (ONL)			
	Year	Sem	Year	Sem	Year	Sem		
MEC5105 Combustion <sup>&gt;</sup>						2		Pre-requisite: MEC3107 or MEC3102 or MEC4108 or MEC5107 or Students must be enrolled in the following Program: MEPR
CHE1110 Chemistry 1 <sup>^</sup>		1		1			HR	

#### Footnotes

- § Unavailable online in S3 2023  
 ~ Unavailable in On-Campus mode in S2 2023  
 # Unavailable in External mode in S3 2023  
 † The semester 3 offering of this course is offered in odd numbered years only.  
 > Offered Odd Years Only  
 £ In Semester 3, 2023 this course will be delivered as a Transition (9 week) semester, commencing on 13 November 2023 and concluding on 12 January 2024  
 ‡ The semester 3 offering of this course is offered in even numbered years only.  
 ^ [CHE1110 Chemistry 1](#) has a highly recommended residential school requirement in External mode.

## Instrumentation Control and Automation Engineering major part-time recommended enrolment pattern

To satisfy the requirements of the program students must complete all of the Academic and Practice courses in the following table that shows the recommended enrolment patterns for on-campus and external students for our Toowoomba campus. Students following a non-standard enrolment pattern should click on the course link in the table below to ascertain if a course is offered in another term.

Major study: Instrumentation Control and Automation Engineering (Major Study Code: 17741)								
Course	Year of program and semester in which course is normally studied						Residential school	Enrolment requirements
	On-campus (ONC)		External (EXT)		Online (ONL)			
	Year	Sem	Year	Sem	Year	Sem		
Academic Courses Year 1								
ENG1002 Introduction to Engineering and Built Environment Applications	1	1,2			1	1,2		
ENM1600 Engineering Mathematics	1	1,2			1	1,2		Enrolment is not permitted in <a href="#">ENM1600</a> if <a href="#">MAT1102</a> or <a href="#">MAT1502</a> has been previously completed
ENG1100 Introduction to Engineering Design	1	1,2			1	1,2		
ENG1004 Engineering Problem Solving Principles	1	1			1	1,2		
Practice Courses Year 1								
ENG1901 Engineering Practice 1	1	1,2	1	2,3			M	
Academic Courses Year 2								
ELE1301 Computer Engineering	2	1			2	1		
ELE1502 Electronic Circuits	2	1			2	1		
MEC1201 Engineering Materials	2	1,2			2	1,2,3		
ELE1801 Electrical Technology <sup>§</sup>	2	2			2	2,3		Pre-requisite: <a href="#">ENM1500</a> or <a href="#">ENM1600</a> or Students must be enrolled in one of the following Programs: MEPR or GCEN or GEPR

Major study: Instrumentation Control and Automation Engineering (Major Study Code: 17741)									
Course	Year of program and semester in which course is normally studied						Residential school	Enrolment requirements	
	On-campus (ONC)		External (EXT)		Online (ONL)				
	Year	Sem	Year	Sem	Year	Sem			
Practice Courses Year 2									
<a href="#">ELE1911 Electrical and Electronic Practice A</a> <sup>‡</sup>	2	2	2	3			M		
Academic Courses Year 3									
<a href="#">ENM2600 Advanced Engineering Mathematics</a> <sup>§</sup>	3	1			3	1,3		Pre-requisite: <a href="#">ENM1600</a> or Students must be enrolled in one of the following Programs: GCEN or METC or MENS or GDNS or MEPR or MSCN	
<a href="#">ELE2303 Embedded Systems Design</a>	3	1			3	1		Pre-requisite: <a href="#">ELE1301</a>	
<a href="#">ENG3104 Engineering Simulations and Computations</a>	3	2			3	2		Pre-requisite: ( <a href="#">ENM2600</a> or <a href="#">MAT2100</a> or MAT2500) or Students must be enrolled in one of the following Programs: GDET or METC or GDNS or MENS	
<a href="#">ELE2103 Linear Systems and Control</a>	3	2			3	2			
Practice Courses Year 3									
<a href="#">ELE2912 Electrical and Electronic Practice B</a> <sup>‡</sup>	3	1	3	3			M	Pre-requisite: ( <a href="#">ELE1301</a> and <a href="#">ELE1502</a> and <a href="#">ELE1801</a> ) or Students must be enrolled in one of the following Programs: GDNS or MENS	
Academic Courses Year 4									
<a href="#">ENG2002 Technology, Sustainability and Society</a>	4	1,2			4	1,2,3			
Approved Course (Select from minor or approved course list)	4	1			4	1			
<a href="#">ELE2504 Electronic Design and Analysis</a>	4	2			4	2		Pre-requisite: <a href="#">ELE1502</a> or Students must be enrolled in one of the following Programs: MEPR or GDNS or MENS or GCNS or GCEN or GEPR Students cannot be enrolled in <a href="#">ELE2503</a> and <a href="#">ELE2504</a> in the same semester	
<a href="#">MEC2106 Introduction to Thermofluids</a>	4	2			4	2		Pre-requisite: <a href="#">CIV1500</a> or <a href="#">CIV1501</a> or Students must be enrolled in one of the following Programs: BENH or BEBC or BEHS or GCEN or MENS or GEPR	
Practice Courses Year 4									
<a href="#">ELE2913 Electrical and Electronic Practice C</a>					4	2		Pre-requisite: ( <a href="#">ELE1301</a> and <a href="#">ELE1502</a> and <a href="#">ELE1801</a> ) or Students must be enrolled in one of the following Programs: GDNS or MENS	
Academic Courses Year 5									
<a href="#">MEC3107 Thermofluids</a>	5	1			5	1		Pre-requisite: ( <a href="#">MEC2106</a> and <a href="#">ENM1600</a> ) or Students must be enrolled in one of the following Programs: GCNS or	

Major study: Instrumentation Control and Automation Engineering (Major Study Code: 17741)									
Course	Year of program and semester in which course is normally studied						Residential school	Enrolment requirements	
	On-campus (ONC)		External (EXT)		Online (ONL)				
	Year	Sem	Year	Sem	Year	Sem			
								GDNS Enrolment is not permitted in <a href="#">MEC3107</a> if MEC2101 or MEC3102 have been previously completed	
<a href="#">ENG3003 Engineering Management</a> <sup>†</sup>	5	1			5	1,3			
<a href="#">ELE4307 Real Time Systems</a>	5	2			5	2		Pre-requisite: <a href="#">ELE1301</a> or Students must be enrolled in one of the following Programs: GCNS or GDNS or MENS or MEPR	
Approved Course (Select from minor or approved course list)	5	2			5	2			
<b>Practice Courses Year 5</b>									
<a href="#">ELE3914 Electrical and Electronic Practice D</a>	5	1	5	3			M	Pre-requisite: ( <a href="#">ELE1801</a> and <a href="#">ELE1301</a> and <a href="#">ELE1502</a> ) or Students must be enrolled in one of the following Programs: MENS or MEPR	
<b>Academic Courses Year 6</b>									
<a href="#">ELE3105 Computer Controlled Systems</a>	6	1			6	1		Pre-requisite: <a href="#">ELE2103</a> or Students must be enrolled in one of the following Programs: GCNS or GCEN or GDNS or MEPR or MENS or METC or GEPR	
<a href="#">ELE4109 Measurement Science and Instrument Engineering</a> <sup>&gt;</sup>					6	1			
<a href="#">MEC2501 Process Control Systems</a>					6	2		Pre-requisite: <a href="#">ELE2103</a> or ( <a href="#">MEC1501</a> and <a href="#">ELE2101</a> as Co-requisite or Pre-requisite) or Students must be enrolled in the following Program: GEPR	
<a href="#">ELE3506 Electronic Measurement</a>	6	2			6	2		Pre-requisite: ( <a href="#">ELE1502</a> and ( <a href="#">ELE2101</a> or <a href="#">ELE2103</a> ) and ( <a href="#">ELE2503</a> or <a href="#">ELE2504</a> )) or Students must be enrolled in one of the following Programs: GCEN or METC or MEPR or MENS	
<b>Practice Courses Year 6</b>									
<a href="#">MEC3905 Mechatronic Practice</a>			6	2			M		
<b>Academic Courses Year 7</b>									
<a href="#">MEC4108 Advanced Thermofluids</a>	7	1			7	1		Pre-requisite: ( <a href="#">MEC3107</a> & <a href="#">ENM2600</a> & <a href="#">ENG3104</a> ) or Students must be enrolled in one of the following Programs: MENS or MEPR or GCNS or GDNS or GEPR Students cannot enrol in <a href="#">MEC4108</a> if they have successfully com	

Major study: Instrumentation Control and Automation Engineering (Major Study Code: 17741)								
Course	Year of program and semester in which course is normally studied						Residential school	Enrolment requirements
	On-campus (ONC)		External (EXT)		Online (ONL)			
	Year	Sem	Year	Sem	Year	Sem		
								pleted, or are currently enrolled in, MEC4103
Approved Course (Select from minor or approved course list)	7	1			7	1		
<a href="#">ENG4110 Engineering Research Methodology</a>	7	2			7	2		
<a href="#">MEC4406 Robotics and Machine Vision</a>	7	2			7	2		Pre-requisite: <a href="#">MEC2401</a> or <a href="#">ELE2103</a> or Students must be enrolled in one of the following Programs: MENS or GCEN
Practice Courses Year 7								
<a href="#">ENG3902 Professional Practice 1</a>			7	2			M	Pre-requisite: Students must be enrolled in one of the following Programs: BCNH or BCON or BEBB or BEBC or BEHB or BEHI or BEHS or BENG or BENH or MENS
Academic Courses Year 8								
<a href="#">ELE4506 Industrial Process Automation</a>					8	1		Pre-requisite: ( <a href="#">ELE2101</a> or <a href="#">ELE2103</a> ) and <a href="#">ELE3105</a> and <a href="#">MEC2501</a> or Students must be enrolled in the following program: GCNS or GDNS or MENS or MEPR
<a href="#">ENG4111 Research Project Part 1</a>	8	1			8	1		Pre-requisite: <a href="#">ENG3902</a> and <a href="#">ENG4110</a> and Students must be enrolled in one of the following Programs: BCNH or BCON or BEBB or BEBC or BEHB or BEHI or BEHS or BENG or BENH Undergraduate students must have completed 22 units in their program.
<a href="#">ENG4112 Research Project Part 2</a>	8	1,2			8	1,2		Pre-requisite: <a href="#">ENG4111</a> and Students must be enrolled in one of the following Programs: BCNH or BCON or BEBB or BEBC or BEHB or BEHI or BEHS or BENG or BENH
Approved Course (Select from minor or approved course list)	8	2			8	2		
Practice Courses Year 8								
<a href="#">ENG4903 Professional Practice 2</a>	8	1	8	2			M	Pre-requisite: <a href="#">ENG3902</a> and Students must be enrolled in: BCNH or BCON or BEBB or BEBC or BEHB or BEHI or BEHS or BENG or BENH or MENS. Students cannot enrol in <a href="#">ENG3902</a> & <a href="#">ENG4903</a> in the same semester. Co-requisite: <a href="#">ENG4111</a> or <a href="#">ENG4112</a> or <a href="#">ENG8411</a> or <a href="#">ENG8412</a>
<a href="#">ENG4909 Work Experience - Professional</a>					8	1,2,3		



Major study: Instrumentation Control and Automation Engineering (Major Study Code: 17741)									
Course	Year of program and semester in which course is normally studied						Residential school	Enrolment requirements	
	On-campus (ONC)		External (EXT)		Online (ONL)				
	Year	Sem	Year	Sem	Year	Sem			
Select a minor study or approved courses from the following or other elective courses as approved by the Program Director									
<a href="#">ELE2601 Telecommunications Principles</a>		1				1		Pre-requisite: ( <a href="#">ELE1502</a> and <a href="#">ELE1801</a> ) or Students must be enrolled in one of the following Programs: GCEN or METC or GEPR	
<a href="#">ELE2704 Electricity Supply Systems</a>		2				2		Pre-requisite: <a href="#">ELE1801</a> or Students must be enrolled in one of the following Programs: MEPR or GCEN or METC or GEPR	
<a href="#">ELE3107 Signal Processing</a>		2				2			
<a href="#">ELE3305 Computer Systems and Communications Protocols</a>		1				1			
<a href="#">ELE3803 Electrical Plant</a>		1				1		Pre-requisite: <a href="#">ELE1801</a> or Students must be enrolled in one of the following Programs: GCEN or METC or MEPR or GCNS or GDNS or MENS or GEPR	
<a href="#">ELE4804 Power Systems Protection</a>						1		Pre-requisite: <a href="#">ELE1801</a> or Students must be enrolled in one of the following Programs: GCEN or METC or MEPR or GCNS or GDNS or MENS	
<a href="#">ELE3805 Power Electronics Principles and Applications</a>		2				2		Pre-requisite: ( <a href="#">ELE1502</a> and <a href="#">ELE1801</a> ) or Students must be enrolled in one of the following Programs: GCEN or METC or MEPR or GCNS or GDNS or MENS	
<a href="#">ELE4606 Communication Systems</a>		2				2		Pre-requisite: ( <a href="#">ELE2504</a> and <a href="#">ELE2601</a> ) or Students must be enrolled in one of the following Programs: GCEN or METC or MEPR or MENS or GCNS or GDNS	
<a href="#">ELE4607 Advanced Digital Communications</a>		1				1		Pre-requisite: <a href="#">ELE1301</a> or Students must be enrolled in one of the following Programs: GCEN or METC or GCNS or GDNS or MENS or MEPR	
<a href="#">ELE5001 Industrial Communications Protocols</a>		1				1		Pre-requisite: <a href="#">ELE2601</a> or Students must be enrolled in the following Program: GCNS, GDNS, MENS or MEPR	
<a href="#">CSC1401 Foundation Programming<sup>£</sup></a>		1,2				1,2,3			
<a href="#">CSC2402 Object-Oriented Programming in C++</a>		1				1		Pre-requisite: <a href="#">CSC1401</a> or Students must be enrolled in one of the following Programs: GDTI or GCSC or GCEN or METC or MCOT or MCTE or MCOP or MPIT or MCTN	

Major study: Instrumentation Control and Automation Engineering (Major Study Code: 17741)								
Course	Year of program and semester in which course is normally studied						Residential school	Enrolment requirements
	On-campus (ONC)		External (EXT)		Online (ONL)			
	Year	Sem	Year	Sem	Year	Sem		
ENG4004 Engineering Project and Operations Management <sup>‡</sup>		3				2,3		
CIV1501 Engineering Statics		2				2,3		Pre-requisite: ENM1600 or (ENM1500 and CIV1500) or Students must be enrolled in one of the following Programs: MEPR or GCEN or GEPR
MEC2202 Manufacturing Processes		1				1		Pre-requisite: MEC1201 or Students must be enrolled in one of the following Programs: MEPR or GCEN
MEC2401 Dynamics I		1				1		Pre-requisite: ((MAT1502 or MAT1102 or ENM1600) and CIV1501) or Students must be enrolled in one of the following Programs: GCEN or GCNS or METC or MEPR or MENS or GEPR
MEC2402 Stress Analysis		1				1		Pre-requisite: CIV1501 or Students must be enrolled in one of the following Programs: GCEN or METC or MEPR or GCNS or GDNS or MENS or GEPR
MEC3204 Production Engineering		2				2		
MEC4104 Renewable Energy Technology		2				2		Pre-requisite: ((MEC2101 and MEC3102) or MEC2106) or Students must be enrolled in one of the following Programs: GCEN or GCNS or GDNS or METC or MENS or MEPR
MEC5100 Computational Fluid Dynamics						1		Pre-requisite: MEC3107 or MEC3102 or MEC4108 or MEC5107 or ENV3104 or ENV5104 or Students must be enrolled in the following Program: MEPR
MEC5105 Combustion <sup>&gt;</sup>						2		Pre-requisite: MEC3107 or MEC3102 or MEC4108 or MEC5107 or Students must be enrolled in the following Program: MEPR
CHE1110 Chemistry 1 <sup>^</sup>		1		1			HR	

#### Footnotes

- § Unavailable online in S3 2023  
~ Unavailable in On-Campus mode in S2 2023  
‡ Unavailable in External mode in S3 2023  
† The semester 3 offering of this course is offered in odd numbered years only.  
> Offered Odd Years Only  
£ In Semester 3, 2023 this course will be delivered as a Transition (9 week) semester, commencing on 13 November 2023 and concluding on 12 January 2024  
^ CHE1110 Chemistry 1 has a highly recommended residential school requirement in External mode.

## Mechanical Engineering major full-time recommended enrolment pattern (Toowoomba and Springfield campus)

To satisfy the requirements of the program students must complete all of the Academic and Practice courses in the following table that shows the recommended enrolment patterns for on-campus and external students for our Toowoomba campus. Students following a non-standard enrolment pattern should click on the link in the table below to ascertain if a course is offered in another term.

Major study: Mechanical Engineering (Major Study Code: 16928)									
Course	Year of program and semester in which course is normally studied						Residential school	Enrolment requirements	
	On-campus (ONC)		External (EXT)		Online (ONL)				
	Year	Sem	Year	Sem	Year	Sem			
Year 1									
Academic Courses									
ENG1002 Introduction to Engineering and Built Environment Applications	1	1				1,2			
ENM1600 Engineering Mathematics	1	1				1,2		Enrolment is not permitted in ENM1600 if MAT1102 or MAT1502 has been previously completed	
ENG1004 Engineering Problem Solving Principles	1	1				1,2			
ENG1100 Introduction to Engineering Design	1	1				1,2			
Practice Courses									
ENG1901 Engineering Practice 1	1	1,2		2,3			M		
Academic Courses									
MEC1201 Engineering Materials	1	2				1,2,3			
MEC2406 Introduction to Mechatronics and Automation	1	2				2			
CIV1501 Engineering Statics	1	2				2,3		Pre-requisite: ENM1600 or (ENM1500 and CIV1500) or Students must be enrolled in one of the following Programs: MEPR or GCEN or GEPR	
MEC2304 Solid Modelling	1	2				2			
Year 2									
Academic Courses									
ENG2002 Technology, Sustainability and Society	2	1				1,2,3			
ENM2600 Advanced Engineering Mathematics <sup>§</sup>	2	1				1,3		Pre-requisite: ENM1600 or Students must be enrolled in one of the following Programs: GCEN or METC or MENS or GDNS or MEPR or MSCN	
MEC2402 Stress Analysis	2	1				1		Pre-requisite: CIV1501 or Students must be enrolled in one of the following Programs: GCEN or METC or MEPR or GCNS or GDNS or MENS or GEPR	
MEC2401 Dynamics I	2	1				1		Pre-requisite: ((MAT1502 or MAT1102 or ENM1600) and CIV1501) or Students must be enrolled in one of the following Programs: GCEN or GCNS or METC or MEPR or MENS or GEPR	

Major study: Mechanical Engineering (Major Study Code: 16928)								
Course	Year of program and semester in which course is normally studied						Residential school	Enrolment requirements
	On-campus (ONC)		External (EXT)		Online (ONL)			
	Year	Sem	Year	Sem	Year	Sem		
Practice Courses								
MEC2901 Mechanical Practice 1	2	1		3			M	
MEC2902 Mechanical Practice 2	2	1		1			M	
Academic Courses								
ENG3104 Engineering Simulations and Computations	2	2				2		Pre-requisite: (ENM2600 or MAT2100 or MAT2500) or S tudents must be enrolled in one of the following Program s: GDET or METC or GDNS or MENS
ELE1801 Electrical Technology <sup>§</sup>	2	2				2,3		Pre-requisite: ENM1500 or ENM1600 or Students must be enrolled in one of the fol lowing Programs: MEPR or GCEN or GEPR
MEC2106 Introduction to Thermofluids	2	2				2		Pre-requisite: CIV1500 or CIV1501 or Students must be enrolled in one of the follow ing Programs: BENH or BE BC or BEHS or GCEN or MENS or GEPR
MEC2301 Design of Machine Elements	2	2				2		Pre-requisite: (MEC2402 and ENG1100) or Students must be enrolled in one of the fol lowing Programs: MEPR or GCEN or GEPR
Year 3								
Academic Courses								
MEC3203 Materials Technology	3	1				1		Pre-requisite: MEC1201 or Students must be enrolled in one of the following Program s: GCEN or METC or GCNS or GDNS or MEPR or MENS
MEC2202 Manufacturing Processes	3	1				1		Pre-requisite: MEC1201 or Students must be enrolled in one of the following Program s: MEPR or GCEN
MEC3107 Thermofluids	3	1				1		Pre-requisite: (MEC2106 and ENM1600) or Students must be enrolled in one of the fol lowing Programs: GCNS or GDNS Enrolment is not per mitted in MEC3107 if MEC2101 or MEC3102 have been previously completed
MEC4302 Computational Mechanics in Design	3	1				1		Pre-requisite: (MEC2304 and MEC2401 and MEC2402) or Students must be enrolled in one of the following Program s: GCEN or METC or MEPR or GCNS or GDNS or MENS
MEC3204 Production Engineering	3	2				2		

Major study: Mechanical Engineering (Major Study Code: 16928)								
Course	Year of program and semester in which course is normally studied						Residential school	Enrolment requirements
	On-campus (ONC)		External (EXT)		Online (ONL)			
	Year	Sem	Year	Sem	Year	Sem		
<a href="#">MEC3303 Mechanical and Mechatronic System Design</a>	3	2				2		Pre-requisite: <a href="#">MEC2301</a> or Students must be enrolled in one of the following Programs: GCEN or METC or GCNS or GDNS or MEPR or MENS
<a href="#">ENG4110 Engineering Research Methodology</a>	3	2				2		
<a href="#">MEC4403 Advanced Dynamics</a>	3	2				2		Pre-requisite: ( <a href="#">MEC2401</a> and ( <a href="#">MAT2500</a> or <a href="#">ENM2600</a> )) or Students must be enrolled in one of the following Programs: MENS or MEPR or GCNS or GDNS or GEPR
Practice Courses								
<a href="#">MEC3903 Mechanical Practice 3</a>	3	2		3			M	
<a href="#">ENG3902 Professional Practice 1</a>				2			M	Pre-requisite: Students must be enrolled in one of the following Programs: BCNH or BCON or BEBB or BEBC or BEHB or BEHI or BEHS or BENG or BENH or MENS
Year 4								
Academic Courses								
<a href="#">MEC4108 Advanced Thermofluids</a>	4	1				1		Pre-requisite: ( <a href="#">MEC3107</a> & <a href="#">ENM2600</a> & <a href="#">ENG3104</a> ) or Students must be enrolled in one of the following Programs: MENS or MEPR or GCNS or GDNS or GEPR Students cannot enrol in <a href="#">MEC4108</a> if they have successfully completed, or are currently enrolled in, <a href="#">MEC4103</a>
<a href="#">ENG3003 Engineering Management</a> <sup>†</sup>	4	1				1,3		
<a href="#">ENG4111 Research Project Part 1</a>	4	1				1		Pre-requisite: <a href="#">ENG3902</a> and <a href="#">ENG4110</a> and Students must be enrolled in one of the following Programs: BCNH or BCON or BEBB or BEBC or BEHB or BEHI or BEHS or BENG or BENH Undergraduate students must have completed 22 units in their program.
Approved Course (Select from approved course list)	4	1				1,2,3		
Practice Courses								
<a href="#">ENG4903 Professional Practice 2</a>	4	1		2			M	Pre-requisite: <a href="#">ENG3902</a> and Students must be enrolled in: BCNH or BCON or BEBB or BEBC or BEHB or BEHI or BEHS or BENG or BENH or MENS. Students cannot enrol in <a href="#">ENG3902</a> & <a href="#">ENG4903</a> in the same semester. Co-requi

Major study: Mechanical Engineering (Major Study Code: 16928)								
Course	Year of program and semester in which course is normally studied						Residential school	Enrolment requirements
	On-campus (ONC)		External (EXT)		Online (ONL)			
	Year	Sem	Year	Sem	Year	Sem		
								site: <a href="#">ENG4111</a> or <a href="#">ENG4112</a> or <a href="#">ENG8411</a> or <a href="#">ENG8412</a>
<a href="#">ENG4909 Work Experience - Professional</a>						1,2,3		
<b>Academic Courses</b>								
Approved Course (Select from approved course list)	4	2				1,2,3		
<a href="#">MEC4104 Renewable Energy Technology</a>	4	2				2		Pre-requisite: (( <a href="#">MEC2101</a> and <a href="#">MEC3102</a> ) or <a href="#">MEC2106</a> ) or Students must be enrolled in one of the following Programs: GCEN or GCNS or GDNS or METC or MENS or MEPR
<a href="#">ENG4112 Research Project Part 2</a>	4	2				1,2		Pre-requisite: <a href="#">ENG4111</a> and Students must be enrolled in one of the following Programs: BCNH or BCON or BEBB or BEBC or BEHB or BEHI or BEHS or BENG or BENH
Approved Courses (Select from approved course list)	4	2				1,2,3		
<b>Practice Courses</b>								
<a href="#">MEC3904 Mechanical Practice 4</a>	4	2		2			M	Pre-requisite: <a href="#">MEC3102</a> or <a href="#">MEC2106</a> or Students must be enrolled in one of the following Programs: GDNS or MENS or MEPR
<b>Select approved courses from the following or other elective courses as approved by the Program Coordinator</b>								
<a href="#">MEC4406 Robotics and Machine Vision</a>		2				2		Pre-requisite: <a href="#">MEC2401</a> or <a href="#">ELE2103</a> or Students must be enrolled in one of the following Programs: MENS or GCEN
<a href="#">MEC5100 Computational Fluid Dynamics</a>						1		Pre-requisite: <a href="#">MEC3107</a> or <a href="#">MEC3102</a> or <a href="#">MEC4108</a> or <a href="#">MEC5107</a> or <a href="#">ENV3104</a> or <a href="#">ENV5104</a> or Students must be enrolled in the following Program: MEPR
<a href="#">MEC5105 Combustion</a> <sup>&gt;</sup>						2		Pre-requisite: <a href="#">MEC3107</a> or <a href="#">MEC3102</a> or <a href="#">MEC4108</a> or <a href="#">MEC5107</a> or Students must be enrolled in the following Program: MEPR
<a href="#">CIV2503 Structural Design I</a>		2				2		Pre-requisite: ( <a href="#">ENG1100</a> and <a href="#">MEC2402</a> ) or ( <a href="#">ENG1100</a> and <a href="#">CIV1501</a> for students enrolled in one of the following: BETC Infrastructure Management major or BENS Infrastructure Management Engineering major) or Students must be enrolled in: GCEN or GEPR

Major study: Mechanical Engineering (Major Study Code: 16928)								
Course	Year of program and semester in which course is normally studied						Residential school	Enrolment requirements
	On-campus (ONC)		External (EXT)		Online (ONL)			
	Year	Sem	Year	Sem	Year	Sem		
CIV4803 Mechanics and Technology of Fibre Composites						1		Pre-requisite: CIV3506 or CIV4506 or (MEC2402 and MEC3203)
ELE1502 Electronic Circuits		1				1		
ELE2103 Linear Systems and Control		2				2		
ELE2303 Embedded Systems Design		1				1		Pre-requisite: ELE1301
ELE3105 Computer Controlled Systems		1				1		Pre-requisite: ELE2103 or S tudents must be enrolled in one of the following Program s: GCNS or GCEN or GDNS or MEPR or MENS or METC or GEPR
ENV4204 Environmental Technology <sup>@</sup>		1				1		Pre-requisite: ENV2105 or Students must be enrolled in one of the following Program s: PDEV or GCEN or METC or MEPR or GCNS or GDNS or MENS
ENG4004 Engineering Project and Operations Management <sup>‡</sup>		3				2,3		

#### Footnotes

- § Unavailable online in S3 2023  
† The semester 3 offering of this course is offered in odd numbered years only.  
> Offered Odd Years Only. Students who intend to take this course in Year 3 should enrol in [MEC3204 Production Engineering](#) in Year 4.  
@ Students who wish to enrol in ENV4204 Environmental Technology as an Approved course, should consult their Program Director.  
‡ The semester 3 offering of this course is offered in even numbered years only.

## Mechanical Engineering major part-time recommended enrolment pattern (Toowoomba and Springfield campus)

Major study: Mechanical Engineering (Major Study Code: 16928)									
Course	Year of program and semester in which course is normally studied						Residential school	Enrolment requirements	
	On-campus (ONC)		External (EXT)		Online (ONL)				
	Year	Sem	Year	Sem	Year	Sem			
Year 1									
Academic Courses									
ENG1002 Introduction to Engineering and Built Environment Applications		1,2				1,2			
ENM1600 Engineering Mathematics		1,2				1,2		Enrolment is not permitted in <a href="#">ENM1600</a> if <a href="#">MAT1102</a> or <a href="#">MAT1502</a> has been previously completed	
MEC1201 Engineering Materials		1,2				1,2,3			
MEC2406 Introduction to Mechatronics and Automation		2				2			
Practice Courses									
ENG1901 Engineering Practice 1		1,2		2,3			M		
Year 2									
Academic Courses									
ENG1004 Engineering Problem Solving Principles		1				1,2			

Major study: Mechanical Engineering (Major Study Code: 16928)								
Course	Year of program and semester in which course is normally studied						Residential school	Enrolment requirements
	On-campus (ONC)		External (EXT)		Online (ONL)			
	Year	Sem	Year	Sem	Year	Sem		
ENG1100 Introduction to Engineering Design		1,2				1,2		
CIV1501 Engineering Statics		2				2,3		Pre-requisite: ENM1600 or (ENM1500 and CIV1500) or Students must be enrolled in one of the following Programs: MEPR or GCEN or GEPR
MEC2304 Solid Modelling		2				2		
Year 3								
Academic Courses								
ENG2002 Technology, Sustainability and Society		1,2				1,2,3		
ENM2600 Advanced Engineering Mathematics <sup>§</sup>		1				1,3		Pre-requisite: ENM1600 or Students must be enrolled in one of the following Programs: GCEN or METC or MENS or GDNS or MEPR or MSCN
ENG3104 Engineering Simulations and Computations		2				2		Pre-requisite: (ENM2600 or MAT2100 or MAT2500) or Students must be enrolled in one of the following Programs: GDET or METC or GDNS or MENS
ELE1801 Electrical Technology <sup>§</sup>		2				2,3		Pre-requisite: ENM1500 or ENM1600 or Students must be enrolled in one of the following Programs: MEPR or GCEN or GEPR
Practice Courses								
MEC2901 Mechanical Practice 1		1		3			M	
Year 4								
Academic Courses								
MEC2402 Stress Analysis		1				1		Pre-requisite: CIV1501 or Students must be enrolled in one of the following Programs: GCEN or METC or MEPR or GCNS or GDNS or MENS or GEPR
MEC2401 Dynamics I		1				1		Pre-requisite: ((MAT1502 or MAT1102 or ENM1600) and CIV1501) or Students must be enrolled in one of the following Programs: GCEN or GCNS or METC or MEPR or MENS or GEPR
MEC2106 Introduction to Thermofluids		2				2		Pre-requisite: CIV1500 or CIV1501 or Students must be enrolled in one of the following Programs: BENH or BEBC or BEHS or GCEN or MENS or GEPR
MEC2301 Design of Machine Elements		2				2		Pre-requisite: (MEC2402 and ENG1100) or Students must be enrolled in one of the fol



Major study: Mechanical Engineering (Major Study Code: 16928)								
Course	Year of program and semester in which course is normally studied						Residential school	Enrolment requirements
	On-campus (ONC)		External (EXT)		Online (ONL)			
	Year	Sem	Year	Sem	Year	Sem		
								lowing Programs: MEPR or GCEN or GEPR
Practice Courses								
MEC2902 Mechanical Practice 2		1		1			M	
Year 5								
Academic Courses								
MEC3203 Materials Technology		1				1		Pre-requisite: MEC1201 or Students must be enrolled in one of the following Programs: GCEN or METC or GCNS or GDNS or MEPR or MENS
MEC2202 Manufacturing Processes		1				1		Pre-requisite: MEC1201 or Students must be enrolled in one of the following Programs: MEPR or GCEN
MEC3204 Production Engineering		2				2		
MEC3303 Mechanical and Mechatronic System Design		2				2		Pre-requisite: MEC2301 or Students must be enrolled in one of the following Programs: GCEN or METC or GCNS or GDNS or MEPR or MENS
Practice Courses								
MEC3903 Mechanical Practice 3		2		3			M	
Year 6								
Academic Courses								
MEC3107 Thermofluids		1				1		Pre-requisite: (MEC2106 and ENM1600) or Students must be enrolled in one of the following Programs: GCNS or GDNS Enrolment is not permitted in MEC3107 if MEC2101 or MEC3102 have been previously completed
MEC4302 Computational Mechanics in Design		1				1		Pre-requisite: (MEC2304 and MEC2401 and MEC2402) or Students must be enrolled in one of the following Programs: GCEN or METC or MEPR or GCNS or GDNS or MENS
MEC4403 Advanced Dynamics		2				2		Pre-requisite: (MEC2401 and (MAT2500 or ENM2600)) or Students must be enrolled in one of the following Programs: MENS or MEPR or GCNS or GDNS or GEPR
Approved Course (Select from approved course list)		2				1,2,3		
Practice Courses								
MEC3904 Mechanical Practice 4		2		2			M	Pre-requisite: MEC3102 or MEC2106 or Students must be enrolled in one of the fol

Major study: Mechanical Engineering (Major Study Code: 16928)								
Course	Year of program and semester in which course is normally studied						Residential school	Enrolment requirements
	On-campus (ONC)		External (EXT)		Online (ONL)			
	Year	Sem	Year	Sem	Year	Sem		
								lowing Programs: GDNS or MENS or MEPR
Year 7								
Academic Courses								
MEC4108 Advanced Thermofluids		1				1		Pre-requisite: (MEC3107 & ENM2600 & ENG3104) or Students must be enrolled in one of the following Programs: MENS or MEPR or GCNS or GDNS or GEPR Students cannot enrol in MEC4108 if they have successfully completed, or are currently enrolled in, MEC4103
ENG3003 Engineering Management <sup>†</sup>		1,3				1,3		
MEC4104 Renewable Energy Technology		2				2		Pre-requisite: ((MEC2101 and MEC3102) or MEC2106) or Students must be enrolled in one of the following Programs: GCEN or GCNS or GDNS or METC or MENS or MEPR
ENG4110 Engineering Research Methodology		2				2		
Practice Courses								
ENG3902 Professional Practice 1				2			M	Pre-requisite: Students must be enrolled in one of the following Programs: BCNH or BCON or BEBB or BEBC or BEHB or BEHI or BEHS or BENG or BENH or MENS
Year 8								
Academic Courses								
ENG4111 Research Project Part 1		1				1		Pre-requisite: ENG3902 and ENG4110 and Students must be enrolled in one of the following Programs: BCNH or BCON or BEBB or BEBC or BEHB or BEHI or BEHS or BENG or BENH Undergraduate students must have completed 22 units in their program.
Approved Course (Select from approved course list)		1				1,2,3		
Practice Courses								
ENG4909 Work Experience - Professional						1,2,3		
Academic Courses								
ENG4112 Research Project Part 2		1,2				1,2		Pre-requisite: ENG4111 and Students must be enrolled in one of the following Programs: BCNH or BCON or BEBB

Major study: Mechanical Engineering (Major Study Code: 16928)								
Course	Year of program and semester in which course is normally studied						Residential school	Enrolment requirements
	On-campus (ONC)		External (EXT)		Online (ONL)			
	Year	Sem	Year	Sem	Year	Sem		
								or BEBC or BEHB or BEHI or BEHS or BENG or BENH
Approved Courses (Select from approved course list)		2				1,2,3		
Practice Courses								
ENG4903 Professional Practice 2		1		2			M	Pre-requisite: <a href="#">ENG3902</a> and Students must be enrolled in: BCNH or BCON or BEBB or BEBC or BEHB or BEHI or BEHS or BENG or BENH or MENS. Students cannot enrol in <a href="#">ENG3902</a> & <a href="#">ENG4903</a> in the same semester. Co-requisite: <a href="#">ENG4111</a> or <a href="#">ENG4112</a> or <a href="#">ENG8411</a> or <a href="#">ENG8412</a>
Select approved courses from the following or other elective courses as approved by the Program Coordinator								
MEC4406 Robotics and Machine Vision		2				2		Pre-requisite: <a href="#">MEC2401</a> or <a href="#">ELE2103</a> or Students must be enrolled in one of the following Programs: MENS or GCEN
MEC5100 Computational Fluid Dynamics						1		Pre-requisite: <a href="#">MEC3107</a> or <a href="#">MEC3102</a> or <a href="#">MEC4108</a> or <a href="#">MEC5107</a> or <a href="#">ENV3104</a> or <a href="#">ENV5104</a> or Students must be enrolled in the following Program: MEPR
MEC5105 Combustion <sup>&gt;</sup>						2		Pre-requisite: <a href="#">MEC3107</a> or <a href="#">MEC3102</a> or <a href="#">MEC4108</a> or <a href="#">MEC5107</a> or Students must be enrolled in the following Program: MEPR
CIV2503 Structural Design I		2				2		Pre-requisite: ( <a href="#">ENG1100</a> and <a href="#">MEC2402</a> ) or ( <a href="#">ENG1100</a> and <a href="#">CIV1501</a> for students enrolled in one of the following: BETC Infrastructure Management major or BENS Infrastructure Management Engineering major) or Students must be enrolled in: GCEN or GEPR
CIV4803 Mechanics and Technology of Fibre Composites						1		Pre-requisite: <a href="#">CIV3506</a> or <a href="#">CIV4506</a> or ( <a href="#">MEC2402</a> and <a href="#">MEC3203</a> )
ELE1502 Electronic Circuits		1				1		
ELE2103 Linear Systems and Control		2				2		
ELE2303 Embedded Systems Design		1				1		Pre-requisite: <a href="#">ELE1301</a>
ELE3105 Computer Controlled Systems		1				1		Pre-requisite: <a href="#">ELE2103</a> or Students must be enrolled in one of the following Programs: GCNS or GCEN or GDNS or MEPR or MENS or METC or GEPR

Major study: Mechanical Engineering (Major Study Code: 16928)								
Course	Year of program and semester in which course is normally studied						Residential school	Enrolment requirements
	On-campus (ONC)		External (EXT)		Online (ONL)			
	Year	Sem	Year	Sem	Year	Sem		
ENV4204 Environmental Technology <sup>@</sup>		1				1		Pre-requisite: ENV2105 or Students must be enrolled in one of the following Programs: PDEV or GCEN or METC or MEPR or GCNS or GDNS or MENS
ENG4004 Engineering Project and Operations Management <sup>†</sup>		3				2,3		

#### Footnotes

§ Unavailable online in S3 2023

† The semester 3 offering of this course is offered in odd numbered years only.

> Offered Odd Years Only.

@ Students who wish to enrol in ENV4204 Environmental Technology as an Approved course, should consult their Program Director.

‡ The semester 3 offering of this course is offered in even numbered years only.

## Mechatronic Engineering major full-time recommended enrolment pattern (Toowoomba and Springfield campus)

To satisfy the requirements of the program students must complete all of the Academic and Practice courses in the following table that shows the recommended enrolment patterns for on-campus and external students for our Toowoomba campus. Students following a non-standard enrolment pattern should click on the course link in the table below to ascertain if a course is offered in another term.

Major study: Mechatronic Engineering (Major Study Code: 16929)									
Course	Year of program and semester in which course is normally studied						Residential school	Enrolment requirements	
	On-campus (ONC)		External (EXT)		Online (ONL)				
	Year	Sem	Year	Sem	Year	Sem			
Year 1									
Academic Courses									
ENM1600 Engineering Mathematics	1	1				1,2		Enrolment is not permitted in ENM1600 if MAT1102 or MAT1502 has been previously completed	
ENG1004 Engineering Problem Solving Principles	1	1				1,2			
ENG1100 Introduction to Engineering Design	1	1				1,2			
ELE1301 Computer Engineering	1	1				1			
Practice Courses									
ENG1901 Engineering Practice 1	1	1,2		2,3			M		
Academic Courses									
ENG1002 Introduction to Engineering and Built Environment Applications	1	2				1,2			
MEC2406 Introduction to Mechatronics and Automation	1	2				2			
CIV1501 Engineering Statics	1	2				2,3		Pre-requisite: ENM1600 or (ENM1500 and CIV1500) or Students must be enrolled in one of the following Programs: MEPR or GCEN or GEPR	
MEC2304 Solid Modelling	1	2				2			

Major study: Mechatronic Engineering (Major Study Code: 16929)									
Course	Year of program and semester in which course is normally studied						Residential school	Enrolment requirements	
	On-campus (ONC)		External (EXT)		Online (ONL)				
	Year	Sem	Year	Sem	Year	Sem			
Year 2									
Academic Courses									
MEC1201 Engineering Materials	2	1				1,2,3			
ENM2600 Advanced Engineering Mathematics <sup>§</sup>	2	1				1,3		Pre-requisite: <a href="#">ENM1600</a> or Students must be enrolled in one of the following Programs: GCEN or METC or MENS or GDNS or MEPR or MSCN	
MEC2402 Stress Analysis	2	1				1		Pre-requisite: <a href="#">CIV1501</a> or Students must be enrolled in one of the following Programs: GCEN or METC or MEPR or GCNS or GDNS or MENS or GEPR	
MEC2401 Dynamics I	2	1				1		Pre-requisite: ((MAT1502 or <a href="#">MAT1102</a> or <a href="#">ENM1600</a> ) and <a href="#">CIV1501</a> ) or Students must be enrolled in one of the following Programs: GCEN or GCNS or METC or MEPR or MENS or GEPR	
Practice Courses									
MEC2901 Mechanical Practice 1	2	1		3			M		
MEC2902 Mechanical Practice 2	2	1		1			M		
Academic Courses									
ELE1801 Electrical Technology <sup>§</sup>	2	2				2,3		Pre-requisite: <a href="#">ENM1500</a> or <a href="#">ENM1600</a> or Students must be enrolled in one of the following Programs: MEPR or GCEN or GEPR	
ENG3104 Engineering Simulations and Computations	2	2				2		Pre-requisite: ( <a href="#">ENM2600</a> or <a href="#">MAT2100</a> or MAT2500) or Students must be enrolled in one of the following Programs: GDET or METC or GDNS or MENS	
MEC2301 Design of Machine Elements	2	2				2		Pre-requisite: ( <a href="#">MEC2402</a> and <a href="#">ENG1100</a> ) or Students must be enrolled in one of the following Programs: MEPR or GCEN or GEPR	
ELE2103 Linear Systems and Control	2	2				2			
Practice Courses									
ELE1911 Electrical and Electronic Practice A <sup>~#</sup>	2	2		3			M		
Year 3									
Academic Courses									
ELE1502 Electronic Circuits	3	1				1			
ENG2002 Technology, Sustainability and Society	3	1				1,2,3			

Major study: Mechatronic Engineering (Major Study Code: 16929)								
Course	Year of program and semester in which course is normally studied						Residential school	Enrolment requirements
	On-campus (ONC)		External (EXT)		Online (ONL)			
	Year	Sem	Year	Sem	Year	Sem		
<a href="#">MEC4302 Computational Mechanics in Design</a>	3	1				1		Pre-requisite: ( <a href="#">MEC2304</a> and <a href="#">MEC2401</a> and <a href="#">MEC2402</a> ) or Students must be enrolled in one of the following Program s: GCEN or METC or MEPR or GCNS or GDNS or MENS
<a href="#">ELE2303 Embedded Systems Design</a>	3	1				1		Pre-requisite: <a href="#">ELE1301</a>
<a href="#">MEC4403 Advanced Dynamics</a>	3	2				2		Pre-requisite: ( <a href="#">MEC2401</a> and ( <a href="#">MAT2500</a> or <a href="#">ENM2600</a> )) or Students must be enrolled in one of the following Program s: MENS or MEPR or GCNS or GDNS or GEPR
<a href="#">MEC3303 Mechanical and Mechatronic System Design</a>	3	2				2		Pre-requisite: <a href="#">MEC2301</a> or Students must be enrolled in one of the following Program s: GCEN or METC or GCNS or GDNS or MEPR or MENS
<a href="#">ELE2504 Electronic Design and Analysis</a>	3	2				2		Pre-requisite: <a href="#">ELE1502</a> or S tudents must be enrolled in one of the following Program s: MEPR or GDNS or MENS or GCNS or GCEN or GEPR Students cannot be enrolled in <a href="#">ELE2503</a> and <a href="#">ELE2504</a> in the same semester
<a href="#">ENG4110 Engineering Research Methodology</a>	3	2				2		
Practice Courses								
<a href="#">MEC3905 Mechatronic Practice</a>				2			M	
<a href="#">ENG3902 Professional Practice 1</a>				2			M	Pre-requisite: Students must be enrolled in one of the fol lowing Programs: BCNH or BCON or BEBB or BEBC or BEHB or BEHI or BEHS or BENG or BENH or MENS
Year 4								
Academic Courses								
<a href="#">MEC2202 Manufacturing Processes</a>	4	1				1		Pre-requisite: <a href="#">MEC1201</a> or Students must be enrolled in one of the following Program s: MEPR or GCEN
<a href="#">ELE3105 Computer Controlled Systems</a>	4	1				1		Pre-requisite: <a href="#">ELE2103</a> or S tudents must be enrolled in one of the following Program s: GCNS or GCEN or GDNS or MEPR or MENS or METC or GEPR
<a href="#">ENG3003 Engineering Management</a> <sup>†</sup>	4	1				1,3		
<a href="#">ENG4111 Research Project Part 1</a>	4	1				1		Pre-requisite: <a href="#">ENG3902</a> and <a href="#">ENG4110</a> and Students must be enrolled in one of the fol lowing Programs: BCNH or BCON or BEBB or BEBC or BEHB or BEHI or BEHS or

Major study: Mechatronic Engineering (Major Study Code: 16929)								
Course	Year of program and semester in which course is normally studied						Residential school	Enrolment requirements
	On-campus (ONC)		External (EXT)		Online (ONL)			
	Year	Sem	Year	Sem	Year	Sem		
								BENG or BENH Undergraduate students must have completed 22 units in their program.
Practice Courses								
ENG4903 Professional Practice 2	4	1		2			M	Pre-requisite: <a href="#">ENG3902</a> and Students must be enrolled in: BCNH or BCON or BEBB or BEBC or BEHB or BEHI or BEHS or BENG or BENH or MENS. Students cannot enrol in <a href="#">ENG3902</a> & <a href="#">ENG4903</a> in the same semester. Co-requisite: <a href="#">ENG4111</a> or <a href="#">ENG4112</a> or <a href="#">ENG8411</a> or <a href="#">ENG8412</a>
ENG4909 Work Experience - Professional						1,2,3		
Academic Courses								
Approved Course (Select from approved course list)	4	2				1,2,3		
ELE3506 Electronic Measurement	4	2				2		Pre-requisite: ( <a href="#">ELE1502</a> and ( <a href="#">ELE2101</a> or <a href="#">ELE2103</a> ) and ( <a href="#">ELE2503</a> or <a href="#">ELE2504</a> )) or Students must be enrolled in one of the following Programs: GCEN or METC or MEPR or MENS
MEC4406 Robotics and Machine Vision	4	2				2		Pre-requisite: <a href="#">MEC2401</a> or <a href="#">ELE2103</a> or Students must be enrolled in one of the following Programs: MENS or GCEN
ENG4112 Research Project Part 2	4	2				1,2		Pre-requisite: <a href="#">ENG4111</a> and Students must be enrolled in one of the following Programs: BCNH or BCON or BEBB or BEBC or BEHB or BEHI or BEHS or BENG or BENH
Select one (1) approved course from the following or other elective course as approved by the Program Director								
<a href="#">ENG4004 Engineering Project and Operations Management<sup>‡</sup></a>		3				2,3		
<a href="#">ELE3305 Computer Systems and Communications Protocols</a>		1				1		
<a href="#">MEC2106 Introduction to Thermofluids</a>		2				2		Pre-requisite: <a href="#">CIV1500</a> or <a href="#">CIV1501</a> or Students must be enrolled in one of the following Programs: BENH or BEBC or BEHS or GCEN or MENS or GEPR
<a href="#">MEC3203 Materials Technology</a>		1				1		Pre-requisite: <a href="#">MEC1201</a> or Students must be enrolled in one of the following Programs: GCEN or METC or GCNS or GDNS or MEPR or MENS

Major study: Mechatronic Engineering (Major Study Code: 16929)								
Course	Year of program and semester in which course is normally studied						Residential school	Enrolment requirements
	On-campus (ONC)		External (EXT)		Online (ONL)			
	Year	Sem	Year	Sem	Year	Sem		
<a href="#">MEC3204 Production Engineering</a>		2				2		
<a href="#">MEC4104 Renewable Energy Technology</a>		2				2		Pre-requisite: ((MEC2101 and MEC3102) or <a href="#">MEC2106</a> ) or Students must be enrolled in one of the following Programs: GCEN or GCNS or GDNS or METC or MENS or MEPR

#### Footnotes

- § Unavailable online in S3 2023  
 ~ Unavailable in On-Campus mode in S2 2023  
 # Unavailable in External mode in S3 2023  
 † The Semester 3 offering of this course is offered in odd numbered years only.  
 ‡ The semester 3 offering of this course is offered in even numbered years only.

## Mechatronic Engineering major part-time recommended enrolment pattern (Toowoomba and Springfield campus)

Major study: Mechatronic Engineering (Major Study Code: 16929)									
Course	Year of program and semester in which course is normally studied						Residential school	Enrolment requirements	
	On-campus (ONC)		External (EXT)		Online (ONL)				
	Year	Sem	Year	Sem	Year	Sem			
Year 1									
Academic Courses									
ENM1600 Engineering Mathematics		1,2				1,2		Enrolment is not permitted in ENM1600 if MAT1102 or MAT1502 has been previously completed	
ENG1004 Engineering Problem Solving Principles		1				1,2			
ENG1002 Introduction to Engineering and Built Environment Applications		1,2				1,2			
MEC2406 Introduction to Mechatronics and Automation		2				2			
Year 2									
Academic Courses									
ENG1100 Introduction to Engineering Design		1,2				1,2			
ELE1301 Computer Engineering		1				1			
CIV1501 Engineering Statics		2				2,3		Pre-requisite: ENM1600 or (ENM1500 and CIV1500) or Students must be enrolled in one of the following Programs: MEPR or GCEN or GEPR	
MEC2304 Solid Modelling		2				2			
Practice Courses									
ENG1901 Engineering Practice 1		1,2		2,3			M		
Year 3									
Academic Courses									
MEC1201 Engineering Materials		1,2				1,2,3			



Major study: Mechatronic Engineering (Major Study Code: 16929)								
Course	Year of program and semester in which course is normally studied						Residential school	Enrolment requirements
	On-campus (ONC)		External (EXT)		Online (ONL)			
	Year	Sem	Year	Sem	Year	Sem		
ENM2600 Advanced Engineering Mathematics <sup>§</sup>		1				1,3		Pre-requisite: <a href="#">ENM1600</a> or Students must be enrolled in one of the following Program s: GCEN or METC or MENS or GDNS or MEPR or MSCN
ELE1801 Electrical Technology <sup>§</sup>		2				2,3		Pre-requisite: <a href="#">ENM1500</a> or <a href="#">ENM1600</a> or Students must be enrolled in one of the fol lowing Programs: MEPR or GCEN or GEPR
ENG3104 Engineering Simulations and Computations		2				2		Pre-requisite: ( <a href="#">ENM2600</a> or <a href="#">MAT2100</a> or MAT2500) or S tudents must be enrolled in one of the following Program s: GDET or METC or GDNS or MENS
Year 4								
Academic Courses								
MEC2402 Stress Analysis		1				1		Pre-requisite: <a href="#">CIV1501</a> or S tudents must be enrolled in one of the following Program s: GCEN or METC or MEPR or GCNS or GDNS or MENS or GEPR
MEC2401 Dynamics I		1				1		Pre-requisite: ((MAT1502 or <a href="#">MAT1102</a> or <a href="#">ENM1600</a> ) and <a href="#">CIV1501</a> ) or Students must be enrolled in one of the fol lowing Programs: GCEN or GCNS or METC or MEPR or MENS or GEPR
MEC2301 Design of Machine Elements		2				2		Pre-requisite: ( <a href="#">MEC2402</a> and <a href="#">ENG1100</a> ) or Students must be enrolled in one of the fol lowing Programs: MEPR or GCEN or GEPR
ELE2103 Linear Systems and Control		2				2		
Practice Courses								
MEC2901 Mechanical Practice 1		1		3			M	
MEC2902 Mechanical Practice 2		1		1			M	
ELE1911 Electrical and Electronic Practice A <sup>~#</sup>		2		3			M	
Year 5								
Academic Courses								
ELE1502 Electronic Circuits		1				1		
ENG2002 Technology, Sustainability and Society		1,2				1,2,3		
MEC4403 Advanced Dynamics		2				2		Pre-requisite: ( <a href="#">MEC2401</a> and (MAT2500 or <a href="#">ENM2600</a> )) or Students must be enrolled in one of the following Program s: MENS or MEPR or GCNS or GDNS or GEPR

Major study: Mechatronic Engineering (Major Study Code: 16929)								
Course	Year of program and semester in which course is normally studied						Residential school	Enrolment requirements
	On-campus (ONC)		External (EXT)		Online (ONL)			
	Year	Sem	Year	Sem	Year	Sem		
<a href="#">MEC3303 Mechanical and Mechatronic System Design</a>		2				2		Pre-requisite: <a href="#">MEC2301</a> or Students must be enrolled in one of the following Programs: GCEN or METC or GCNS or GDNS or MEPR or MENS
Year 6								
<a href="#">MEC4302 Computational Mechanics in Design</a>		1				1		Pre-requisite: ( <a href="#">MEC2304</a> and <a href="#">MEC2401</a> and <a href="#">MEC2402</a> ) or Students must be enrolled in one of the following Programs: GCEN or METC or MEPR or GCNS or GDNS or MENS
<a href="#">ELE2303 Embedded Systems Design</a>		1				1		Pre-requisite: <a href="#">ELE1301</a>
<a href="#">ELE2504 Electronic Design and Analysis</a>		2				2		Pre-requisite: <a href="#">ELE1502</a> or Students must be enrolled in one of the following Programs: MEPR or GDNS or MENS or GCNS or GCEN or GEPR Students cannot be enrolled in <a href="#">ELE2503</a> and <a href="#">ELE2504</a> in the same semester
Approved Course (Select from approved course list)								
Practice Courses								
<a href="#">MEC3905 Mechatronic Practice</a>				2			M	
Year 7								
Academic Courses								
<a href="#">MEC2202 Manufacturing Processes</a>		1				1		Pre-requisite: <a href="#">MEC1201</a> or Students must be enrolled in one of the following Programs: MEPR or GCEN
<a href="#">ELE3105 Computer Controlled Systems</a>		1				1		Pre-requisite: <a href="#">ELE2103</a> or Students must be enrolled in one of the following Programs: GCNS or GCEN or GDNS or MEPR or MENS or METC or GEPR
<a href="#">ELE3506 Electronic Measurement</a>		2				2		Pre-requisite: ( <a href="#">ELE1502</a> and ( <a href="#">ELE2101</a> or <a href="#">ELE2103</a> ) and ( <a href="#">ELE2503</a> or <a href="#">ELE2504</a> )) or Students must be enrolled in one of the following Programs: GCEN or METC or MEPR or MENS
<a href="#">ENG4110 Engineering Research Methodology</a>		2				2		
Practice Courses								
<a href="#">ENG3902 Professional Practice 1</a>				2			M	Pre-requisite: Students must be enrolled in one of the following Programs: BCNH or BEBB or BEBC or BEHB or BEHI or BEHS or BENG or BENH or MENS

Major study: Mechatronic Engineering (Major Study Code: 16929)								
Course	Year of program and semester in which course is normally studied						Residential school	Enrolment requirements
	On-campus (ONC)		External (EXT)		Online (ONL)			
	Year	Sem	Year	Sem	Year	Sem		
Year 8								
Academic Courses								
ENG3003 Engineering Management <sup>†</sup>		1,3				1,3		
ENG4111 Research Project Part 1		1				1		Pre-requisite: <a href="#">ENG3902</a> and <a href="#">ENG4110</a> and Students must be enrolled in one of the following Programs: BCNH or BCON or BEBB or BEBC or BEHB or BEHI or BEHS or BENG or BENH Undergraduate students must have completed 22 units in their program.
Practice Courses								
ENG4909 Work Experience - Professional						1,2,3		
Academic Courses								
MEC4406 Robotics and Machine Vision		2				2		Pre-requisite: <a href="#">MEC2401</a> or <a href="#">ELE2103</a> or Students must be enrolled in one of the following Programs: MENS or GCEN
ENG4112 Research Project Part 2		1,2				1,2		Pre-requisite: <a href="#">ENG4111</a> and Students must be enrolled in one of the following Programs: BCNH or BCON or BEBB or BEBC or BEHB or BEHI or BEHS or BENG or BENH
Practice Courses								
ENG4903 Professional Practice 2		1		2			M	Pre-requisite: <a href="#">ENG3902</a> and Students must be enrolled in: BCNH or BCON or BEBB or BEBC or BEHB or BEHI or BEHS or BENG or BENH or MENS. Students cannot enrol in <a href="#">ENG3902</a> & <a href="#">ENG4903</a> in the same semester. Co-requisite: <a href="#">ENG4111</a> or <a href="#">ENG4112</a> or <a href="#">ENG8411</a> or <a href="#">ENG8412</a>
Select one (1) approved course from the following or other elective course as approved by the Program Coordinator								
ENG4004 Engineering Project and Operations Management <sup>‡</sup>		3				2,3		
ELE3305 Computer Systems and Communications Protocols		1				1		
MEC2106 Introduction to Thermofluids		2				2		Pre-requisite: <a href="#">CIV1500</a> or <a href="#">CIV1501</a> or Students must be enrolled in one of the following Programs: BENH or BEBC or BEHS or GCEN or MENS or GEPR

Major study: Mechatronic Engineering (Major Study Code: 16929)								
Course	Year of program and semester in which course is normally studied						Residential school	Enrolment requirements
	On-campus (ONC)		External (EXT)		Online (ONL)			
	Year	Sem	Year	Sem	Year	Sem		
<a href="#">MEC3203 Materials Technology</a>		1				1		Pre-requisite: <a href="#">MEC1201</a> or Students must be enrolled in one of the following Program s: GCEN or METC or GCNS or GDNS or MEPR or MENS
<a href="#">MEC3204 Production Engineering</a>		2				2		
<a href="#">MEC4104 Renewable Energy Technology</a>		2				2		Pre-requisite: (( <a href="#">MEC2101</a> and <a href="#">MEC3102</a> ) or <a href="#">MEC2106</a> ) or Students must be enrolled in one of the following Pro grams: GCEN or GCNS or GDNS or METC or MENS or MEPR

#### Footnotes

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 ~ Unavailable in On-Campus mode in S2 2023  
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## Power Engineering major full-time recommended enrolment pattern

To satisfy the requirements of the program students must complete all of the Academic and Practice courses in the following table that shows the recommended enrolment patterns for on-campus and external students for our Toowoomba campus.

Major study: Power Engineering (Major Study Code:16930)									
Course	Year of program and semester in which course is normally studied						Residential school	Enrolment requirements	
	On-campus (ONC)		External (EXT)		Online (ONL)				
	Year	Sem	Year	Sem	Year	Sem			
Academic Courses Year 1									
ENM1600 Engineering Mathematics	1	1				1,2		Enrolment is not permitted in ENM1600 if MAT1102 or MAT1502 has been previously completed	
ENG1004 Engineering Problem Solving Principles	1	1				1,2			
ELE1301 Computer Engineering	1	1				1			
ELE1502 Electronic Circuits	1	1				1			
ENG1002 Introduction to Engineering and Built Environment Applications	1	2				1,2			
ENG1100 Introduction to Engineering Design	1	2				1,2			
ELE1801 Electrical Technology <sup>§</sup>	1	2				2,3		Pre-requisite: ENM1500 or ENM1600 or Students must be enrolled in one of the following Programs: MEPR or GCEN or GEPR	
MEC1201 Engineering Materials	1	2				1,2,3			
Practice Courses Year 1									
ENG1901 Engineering Practice 1	1	1,2		2,3			M		
ELE1911 Electrical and Electronic Practice A <sup>~#</sup>	1	2		3			M		

Major study: Power Engineering (Major Study Code:16930)									
Course	Year of program and semester in which course is normally studied						Residential school	Enrolment requirements	
	On-campus (ONC)		External (EXT)		Online (ONL)				
	Year	Sem	Year	Sem	Year	Sem			
Academic Courses Year 2									
ENM2600 Advanced Engineering Mathematics <sup>§</sup>	2	1				1,3		Pre-requisite: <a href="#">ENM1600</a> or Students must be enrolled in one of the following Program s: GCEN or METC or MENS or GDNS or MEPR or MSCN	
ELE2303 Embedded Systems Design	2	1				1		Pre-requisite: <a href="#">ELE1301</a>	
ENG2002 Technology, Sustainability and Society	2	1				1,2,3			
Approved Course (Select from minor or approved course list)	2	1				1			
ELE2504 Electronic Design and Analysis	2	2				2		Pre-requisite: <a href="#">ELE1502</a> or S tudents must be enrolled in one of the following Program s: MEPR or GDNS or MENS or GCNS or GCEN or GEPR Students cannot be enrolled in <a href="#">ELE2503</a> and <a href="#">ELE2504</a> in the same semester	
ELE2103 Linear Systems and Control	2	2				2			
ENG3104 Engineering Simulations and Computations	2	2				2		Pre-requisite: ( <a href="#">ENM2600</a> or <a href="#">MAT2100</a> or MAT2500) or S tudents must be enrolled in one of the following Program s: GDET or METC or GDNS or MENS	
MEC2106 Introduction to Thermofluids	2	2				2		Pre-requisite: <a href="#">CIV1500</a> or <a href="#">CIV1501</a> or Students must be enrolled in one of the follow ing Programs: BENH or BE BC or BEHS or GCEN or MENS or GEPR	
Practice Courses Year 2									
ELE2912 Electrical and Electronic Practice B <sup>#</sup>	2	1		3			M	Pre-requisite: ( <a href="#">ELE1301</a> and <a href="#">ELE1502</a> and <a href="#">ELE1801</a> ) or Students must be enrolled in one of the following Program s: GDNS or MENS	
ELE2913 Electrical and Electronic Practice C						2		Pre-requisite: ( <a href="#">ELE1301</a> and <a href="#">ELE1502</a> and <a href="#">ELE1801</a> ) or Students must be enrolled in one of the following Program s: GDNS or MENS	
Academic Courses Year 3									
ELE3803 Electrical Plant	3	1				1		Pre-requisite: <a href="#">ELE1801</a> or S tudents must be enrolled in one of the following Program s: GCEN or METC or MEPR or GCNS or GDNS or MENS or GEPR	
ELE3105 Computer Controlled Systems	3	1				1		Pre-requisite: <a href="#">ELE2103</a> or S tudents must be enrolled in one of the following Program s: GCNS or GCEN or GDNS	

Major study: Power Engineering (Major Study Code:16930)								
Course	Year of program and semester in which course is normally studied						Residential school	Enrolment requirements
	On-campus (ONC)		External (EXT)		Online (ONL)			
	Year	Sem	Year	Sem	Year	Sem		
								or MEPR or MENS or METC or GEPR
ENG3003 Engineering Management <sup>†</sup>	3	1				1,3		
ELE3305 Computer Systems and Communications Protocols	3	1				1		
ELE3805 Power Electronics Principles and Applications	3	2				2		Pre-requisite: (ELE1502 and ELE1801) or Students must be enrolled in one of the following Programs: GCEN or METC or MEPR or GCNS or GDNS or MENS
Approved Course (Select from minor or approved course list)	3	2				2		
Approved Course (Select from minor or approved course list)	3	2				2		
ENG4110 Engineering Research Methodology	3	2				2		
Practice Courses Year 3								
ELE3914 Electrical and Electronic Practice D	3	1		3			M	Pre-requisite: (ELE1801 and ELE1301 and ELE1502) or Students must be enrolled in one of the following Program s: MENS or MEPR
ELE3915 Electrical and Electronic Practice E	3	2		2			M	Pre-requisite: ELE1801 and ELE1301 and ELE1502 or S tudents must be enrolled in one of the following Program s: MENS or MEPR
ENG3902 Professional Practice 1				2			M	Pre-requisite: Students must be enrolled in one of the following Programs: BCNH or BCON or BEBB or BEBC or BEHB or BEHI or BEHS or BENG or BENH or MENS
Academic Courses Year 4								
ELE4807 Power Systems Analysis	4	1				1		
ELE4804 Power Systems Protection						1		Pre-requisite: ELE1801 or S tudents must be enrolled in one of the following Program s: GCEN or METC or MEPR or GCNS or GDNS or MENS
ENG4111 Research Project Part 1	4	1				1		Pre-requisite: ENG3902 and ENG4110 and Students must be enrolled in one of the following Programs: BCNH or BCON or BEBB or BEBC or BEHB or BEHI or BEHS or BENG or BENH Undergradu ate students must have completed 22 units in their program.
Approved Course (Select from minor or approved course list)	4	1				1		
ELE2704 Electricity Supply Systems	4	2				2		Pre-requisite: ELE1801 or S tudents must be enrolled in

Major study: Power Engineering (Major Study Code:16930)								
Course	Year of program and semester in which course is normally studied						Residential school	Enrolment requirements
	On-campus (ONC)		External (EXT)		Online (ONL)			
	Year	Sem	Year	Sem	Year	Sem		
								one of the following Programs: MEPR or GCEN or METC or GEPR
<a href="#">MEC4104 Renewable Energy Technology</a>	4	2				2		Pre-requisite: ((MEC2101 and MEC3102) or <a href="#">MEC2106</a> ) or Students must be enrolled in one of the following Programs: GCEN or GCNS or GDNS or METC or MENS or MEPR
<a href="#">ENG4112 Research Project Part 2</a>	4	2				1,2		Pre-requisite: <a href="#">ENG4111</a> and Students must be enrolled in one of the following Programs: BCNH or BCON or BEBB or BEBC or BEHB or BEHI or BEHS or BENG or BENH
Approved Course (Select from minor or approved course list)	4	2				2,3		
<b>Practice Courses Year 4</b>								
<a href="#">ENG4903 Professional Practice 2</a>	4	1		2			M	Pre-requisite: <a href="#">ENG3902</a> and Students must be enrolled in: BCNH or BCON or BEBB or BEBC or BEHB or BEHI or BEHS or BENG or BENH or MENS. Students cannot enrol in <a href="#">ENG3902</a> & <a href="#">ENG4903</a> in the same semester. Co-requisite: <a href="#">ENG4111</a> or <a href="#">ENG4112</a> or <a href="#">ENG8411</a> or <a href="#">ENG8412</a>
<a href="#">ENG4909 Work Experience - Professional</a>						1,2,3		
<b>Select a minor study or approved courses from the following or other elective courses as approved by the Program Director</b>								
<a href="#">ELE2601 Telecommunications Principles</a>		1				1		Pre-requisite: ( <a href="#">ELE1502</a> and <a href="#">ELE1801</a> ) or Students must be enrolled in one of the following Programs: GCEN or METC or GEPR
<a href="#">ELE3107 Signal Processing</a>		2				2		
<a href="#">ELE4307 Real Time Systems</a>		2				2		Pre-requisite: <a href="#">ELE1301</a> or Students must be enrolled in one of the following Programs: GCNS or GDNS or MENS or MEPR
<a href="#">ELE4506 Industrial Process Automation</a>						1		Pre-requisite: ( <a href="#">ELE2101</a> or <a href="#">ELE2103</a> ) and <a href="#">ELE3105</a> and <a href="#">MEC2501</a> or Students must be enrolled in the following program: GCNS or GDNS or MENS or MEPR
<a href="#">ELE4605 Fields and Waves</a>		1				1		Pre-requisite: {(MAT1502 or <a href="#">ENM1600</a> ) and <a href="#">ELE2103</a> and <a href="#">ELE2601</a> } or Students must be enrolled in one of the following Programs: MEPR or MENS or GCNS or GDNS

Major study: Power Engineering (Major Study Code:16930)								
Course	Year of program and semester in which course is normally studied						Residential school	Enrolment requirements
	On-campus (ONC)		External (EXT)		Online (ONL)			
	Year	Sem	Year	Sem	Year	Sem		
<a href="#">ELE5001 Industrial Communications Protocols</a>		1				1		Pre-requisite: <a href="#">ELE2601</a> or S tudents must be enrolled in the following Program: GCN S, GDNS, MENS or MEPR
<a href="#">CIV2403 Geology and Geomechanics</a>		2				2		Pre-requisite: <a href="#">CIV1501</a> or <a href="#">CIV1500</a> or Students must be enrolled in one of the follow ing Programs: MENS or G CEN or GEPR
<a href="#">CIV2605 Construction Engineering</a>		1				1		
<a href="#">GIS1401 Geographic Data Presentation</a>		2				2		
<a href="#">GIS1402 Geographic Information Systems</a> <sup>£</sup>		1				1,3		
<a href="#">ENG4004 Engineering Project and Operations Management</a> <sup>‡</sup>		3				2,3		
<a href="#">CIV1501 Engineering Statics</a>		2				2,3		Pre-requisite: <a href="#">ENM1600</a> or ( <a href="#">ENM1500</a> and <a href="#">CIV1500</a> ) or Students must be enrolled in one of the following Program s: MEPR or GCEN or GEPR
<a href="#">MEC2401 Dynamics I</a>		1				1		Pre-requisite: (( <a href="#">MAT1502</a> or <a href="#">MAT1102</a> or <a href="#">ENM1600</a> ) and <a href="#">CIV1501</a> ) or Students must be enrolled in one of the fol lowing Programs: GCEN or GCNS or METC or MEPR or MENS or GEPR
<a href="#">MEC2402 Stress Analysis</a>		1				1		Pre-requisite: <a href="#">CIV1501</a> or S tudents must be enrolled in one of the following Program s: GCEN or METC or MEPR or GCNS or GDNS or MENS or GEPR
<a href="#">MEC2501 Process Control Systems</a>						2		Pre-requisite: <a href="#">ELE2103</a> or ( <a href="#">MEC1501</a> and <a href="#">ELE2101</a> as Co-requisite or Pre-requisite) or Students must be enrolled in the following Program: GEPR
<a href="#">MEC4403 Advanced Dynamics</a>		2				2		Pre-requisite: ( <a href="#">MEC2401</a> and ( <a href="#">MAT2500</a> or <a href="#">ENM2600</a> )) or Students must be enrolled in one of the following Program s: MENS or MEPR or GCNS or GDNS or GEPR
<a href="#">CHE1110 Chemistry 1</a> <sup>^</sup>		1		1			HR	

#### Footnotes

- § Unavailable online in S3 2023  
 ~ Unavailable in On-Campus mode in S2 2023  
 # Unavailable in External mode in S3 2023  
 † The Semester 3 offering of this course is offered in odd numbered years only.  
 £ In Semester 3, 2023 this course will be delivered as a Transition (9 week) semester, commencing on 13 November 2023 and concluding on 12 January 2024  
 ‡ The Semester 3 offering of this course is offered in even numbered years only.  
 ^ [CHE1110 Chemistry 1](#) has a highly recommended residential school requirement in External mode.



## Power Engineering major part-time recommended enrolment pattern

Major study: Power Engineering (Major Study Code:16930)								
Course	Year of program and semester in which course is normally studied						Residential school	Enrolment requirements
	On-campus (ONC)		External (EXT)		Online (ONL)			
	Year	Sem	Year	Sem	Year	Sem		
Year 1								
ENM1600 Engineering Mathematics		1,2				1,2		Enrolment is not permitted in ENM1600 if MAT1102 or MAT1502 has been previously completed
ENG1004 Engineering Problem Solving Principles		1				1,2		
ENG1002 Introduction to Engineering and Built Environment Applications		1,2				1,2		
ENG1100 Introduction to Engineering Design		1,2				1,2		
Year 1 Practice Courses								
ENG1901 Engineering Practice 1		1,2		2,3			M	
Year 2								
ELE1301 Computer Engineering		1				1		
ELE1502 Electronic Circuits		1				1		
ELE1801 Electrical Technology <sup>§</sup>		2				2,3		Pre-requisite: ENM1500 or ENM1600 or Students must be enrolled in one of the following Programs: MEPR or GCEN or GEPR
MEC1201 Engineering Materials		1,2				1,2,3		
Year 2 Practice Courses								
ELE1911 Electrical and Electronic Practice A <sup>~#</sup>		2		3			M	
Year 3								
ENM2600 Advanced Engineering Mathematics <sup>§</sup>		1				1,3		Pre-requisite: ENM1600 or Students must be enrolled in one of the following Programs: GCEN or METC or MENS or GDNS or MEPR or MSCN
ELE2303 Embedded Systems Design		1				1		Pre-requisite: ELE1301
ELE2504 Electronic Design and Analysis		2				2		Pre-requisite: ELE1502 or Students must be enrolled in one of the following Programs: MEPR or GDNS or MENS or GCNS or GCEN or GEPR Students cannot be enrolled in ELE2503 and ELE2504 in the same semester
ELE2103 Linear Systems and Control		2				2		
Year 3 Practice Courses								
ELE2912 Electrical and Electronic Practice B <sup>#</sup>		1		3			M	Pre-requisite: (ELE1301 and ELE1502 and ELE1801) or Students must be enrolled in one of the following Programs: GDNS or MENS
Year 4								
ENG2002 Technology, Sustainability and Society		1,2				1,2,3		

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	On-campus (ONC)		External (EXT)		Online (ONL)			
	Year	Sem	Year	Sem	Year	Sem		
Approved Course (Select from minor or approved course list)								
ENG3104 Engineering Simulations and Computations		2				2		Pre-requisite: (ENM2600 or MAT2100 or MAT2500) or S tudents must be enrolled in one of the following Program s: GDET or METC or GDNS or MENS
MEC2106 Introduction to Thermofluids		2				2		Pre-requisite: CIV1500 or CIV1501 or Students must be enrolled in one of the follow ing Programs: BENH or BE BC or BEHS or GCEN or MENS or GEPR
Year 4 Practice Courses								
ELE2913 Electrical and Electronic Practice C						2		Pre-requisite: (ELE1301 and ELE1502 and ELE1801) or Students must be enrolled in one of the following Program s: GDNS or MENS
Year 5								
ELE3803 Electrical Plant		1				1		Pre-requisite: ELE1801 or S tudents must be enrolled in one of the following Program s: GCEN or METC or MEPR or GCNS or GDNS or MENS or GEPR
ELE3105 Computer Controlled Systems		1				1		Pre-requisite: ELE2103 or S tudents must be enrolled in one of the following Program s: GCNS or GCEN or GDNS or MEPR or MENS or METC or GEPR
ELE3805 Power Electronics Principles and Applications		2				2		Pre-requisite: (ELE1502 and ELE1801) or Students must be enrolled in one of the fol lowing Programs: GCEN or METC or MEPR or GCNS or GDNS or MENS
Approved Course (Select from minor or approved course list)		2				1,2,3		
Year 5 Practice Courses								
ELE3914 Electrical and Electronic Practice D		1		3			M	Pre-requisite: (ELE1801 and ELE1301 and ELE1502) or Students must be enrolled in one of the following Program s: MENS or MEPR
Year 6								
ENG3003 Engineering Management <sup>†</sup>		1,3				1,3		
ELE3305 Computer Systems and Communications Protocols		1				1		
Approved Course (Select from minor or approved course list)		2				1,2,3		

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	On-campus (ONC)		External (EXT)		Online (ONL)			
	Year	Sem	Year	Sem	Year	Sem		
<a href="#">ELE2704 Electricity Supply Systems</a>		2				2		Pre-requisite: <a href="#">ELE1801</a> or S tudents must be enrolled in one of the following Program s: MEPR or GCEN or METC or GEPR
Year 6 Practice Courses								
<a href="#">ELE3915 Electrical and Electronic Practice E</a>		2		2			M	Pre-requisite: <a href="#">ELE1801</a> and <a href="#">ELE1301</a> and <a href="#">ELE1502</a> or S tudents must be enrolled in one of the following Program s: MENS or MEPR
Year 7								
<a href="#">ELE4807 Power Systems Analysis</a>		1				1		
<a href="#">ELE4804 Power Systems Protection</a>						1		Pre-requisite: <a href="#">ELE1801</a> or S tudents must be enrolled in one of the following Program s: GCEN or METC or MEPR or GCNS or GDNS or MENS
<a href="#">ENG4110 Engineering Research Methodology</a>		2				2		
<a href="#">MEC4104 Renewable Energy Technology</a>		2				2		Pre-requisite: (( <a href="#">MEC2101</a> and <a href="#">MEC3102</a> ) or <a href="#">MEC2106</a> ) or Students must be enrolled in one of the following Pro grams: GCEN or GCNS or GDNS or METC or MENS or MEPR
Year 7 Practice Courses								
<a href="#">ENG3902 Professional Practice 1</a>				2			M	Pre-requisite: Students must be enrolled in one of the fol lowing Programs: BCNH or BCON or BEBB or BEBC or BEHB or BEHI or BEHS or BENG or BENH or MENS
Year 8								
<a href="#">ENG4111 Research Project Part 1</a>		1				1		Pre-requisite: <a href="#">ENG3902</a> and <a href="#">ENG4110</a> and Students must be enrolled in one of the fol lowing Programs: BCNH or BCON or BEBB or BEBC or BEHB or BEHI or BEHS or BENG or BENH Undergradu ate students must have com pleted 22 units in their pro gram.
Approved Course (Select from minor or approved course list)								
<a href="#">ENG4112 Research Project Part 2</a>		1,2				1,2		Pre-requisite: <a href="#">ENG4111</a> and Students must be enrolled in one of the following Program s: BCNH or BCON or BEBB or BEBC or BEHB or BEHI or BEHS or BENG or BENH

Major study: Power Engineering (Major Study Code:16930)								
Course	Year of program and semester in which course is normally studied						Residential school	Enrolment requirements
	On-campus (ONC)		External (EXT)		Online (ONL)			
	Year	Sem	Year	Sem	Year	Sem		
Approved Course (Select from minor or approved course list)								
Year 8 Practice Courses								
ENG4903 Professional Practice 2		1		2			M	Pre-requisite: <a href="#">ENG3902</a> and Students must be enrolled in: BCNH or BCON or BEBB or BEBC or BEHB or BEHI or BEHS or BENG or BENH or MENS. Students cannot enrol in <a href="#">ENG3902</a> & <a href="#">ENG4903</a> in the same semester. Co-requisite: <a href="#">ENG4111</a> or <a href="#">ENG4112</a> or <a href="#">ENG8411</a> or <a href="#">ENG8412</a>
ENG4909 Work Experience - Professional						1,2,3		
Select a minor study or approved courses from the following or other elective courses as approved by the Program Director								
<a href="#">ELE2601 Telecommunications Principles</a>		1				1		Pre-requisite: ( <a href="#">ELE1502</a> and <a href="#">ELE1801</a> ) or Students must be enrolled in one of the following Programs: GCEN or METC or GEPR
<a href="#">ELE3107 Signal Processing</a>		2				2		
<a href="#">ELE4307 Real Time Systems</a>		2				2		Pre-requisite: <a href="#">ELE1301</a> or Students must be enrolled in one of the following Programs: GCNS or GDNS or MENS or MEPR
<a href="#">ELE4506 Industrial Process Automation</a>						1		Pre-requisite: ( <a href="#">ELE2101</a> or <a href="#">ELE2103</a> ) and <a href="#">ELE3105</a> and <a href="#">MEC2501</a> or Students must be enrolled in the following program: GCNS or GDNS or MENS or MEPR
<a href="#">ELE4605 Fields and Waves</a>		1				1		Pre-requisite: (( <a href="#">MAT1502</a> or <a href="#">ENM1600</a> ) and <a href="#">ELE2103</a> and <a href="#">ELE2601</a> ) or Students must be enrolled in one of the following Programs: MEPR or MENS or GCNS or GDNS
<a href="#">ELE5001 Industrial Communications Protocols</a>		1				1		Pre-requisite: <a href="#">ELE2601</a> or Students must be enrolled in the following Program: GCNS, GDNS, MENS or MEPR
<a href="#">CIV2403 Geology and Geomechanics</a>		2				2		Pre-requisite: <a href="#">CIV1501</a> or <a href="#">CIV1500</a> or Students must be enrolled in one of the following Programs: MENS or GCEN or GEPR
<a href="#">CIV2605 Construction Engineering</a>		1				1		
<a href="#">GIS1401 Geographic Data Presentation</a>		2				2		
<a href="#">GIS1402 Geographic Information Systems<sup>£</sup></a>		1				1,3		
<a href="#">ENG4004 Engineering Project and Operations Management<sup>‡</sup></a>		3				2,3		

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	Year	Sem	Year	Sem	Year	Sem		
<a href="#">CIV1501 Engineering Statics</a>		2				2,3		Pre-requisite: <a href="#">ENM1600</a> or ( <a href="#">ENM1500</a> and <a href="#">CIV1500</a> ) or Students must be enrolled in one of the following Programs: MEPR or GCEN or GEPR
<a href="#">MEC2401 Dynamics I</a>		1				1		Pre-requisite: (( <a href="#">MAT1502</a> or <a href="#">MAT1102</a> or <a href="#">ENM1600</a> ) and <a href="#">CIV1501</a> ) or Students must be enrolled in one of the following Programs: GCEN or GCNS or METC or MEPR or MENS or GEPR
<a href="#">MEC2402 Stress Analysis</a>		1				1		Pre-requisite: <a href="#">CIV1501</a> or Students must be enrolled in one of the following Programs: GCEN or METC or MEPR or GCNS or GDNS or MENS or GEPR
<a href="#">MEC2501 Process Control Systems</a>						2		Pre-requisite: <a href="#">ELE2103</a> or ( <a href="#">MEC1501</a> and <a href="#">ELE2101</a> as Co-requisite or Pre-requisite) or Students must be enrolled in the following Program: GEPR
<a href="#">MEC4403 Advanced Dynamics</a>		2				2		Pre-requisite: ( <a href="#">MEC2401</a> and ( <a href="#">MAT2500</a> or <a href="#">ENM2600</a> )) or Students must be enrolled in one of the following Programs: MENS or MEPR or GCNS or GDNS or GEPR
<a href="#">CHE1110 Chemistry 1</a> <sup>^</sup>		1		1			HR	

#### Footnotes

§ Unavailable online in S3 2023

~ Unavailable in On-Campus mode in S2 2023

# Unavailable in External mode in S3 2023

† The Semester 3 offering of this course is offered in odd numbered years only.

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