

## Master of Professional Engineering (MENS) - MProfEng

CRICOS code (International applicants): 067689G

	On-campus	External
<b>Start:</b>	Semester 1 (February) Semester 2 (July) Semester 3 (November)	Semester 1 (February) Semester 2 (July) Semester 3 (November)
<b>Campus:</b>	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>	2 years full-time or 4 years part-time	
<b>Program articulation:</b>	From: <a href="#">Graduate Certificate of Professional Engineering</a> ; <a href="#">Graduate Diploma of Professional Engineering</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.

For all modes of study there are mandatory practical components which require either on-campus participation or residential school attendance.

### 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:studyeng@usq.edu.au">studyeng@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

The specialisations of Agricultural Engineering, Civil Engineering, Electrical & Electronic Engineering, Environmental Engineering, Mechanical Engineering, Power Engineering and Structural Engineering have been accorded full accreditation at the level of Professional Engineer by Engineers Australia and graduates are eligible for Graduate membership at the Professional Engineer Level.

The new Aerospace Engineering specialisation offered in 2023 will be seeking provisional accreditation from Engineers Australia, noting as this is a recognised field of practice within Engineers Australia, graduate membership is still available upon application on completion.

The specialisation of Engineering Management and Enterprise program content is directly linked to Engineers Australia Executive Engineering Stage 4 accreditation competencies but is not accredited as there is no graduate membership with Engineers Australia in this new professional area of practice (i.e., membership begins at CPEng and then after this stage 3 Executive Engineer). Graduates from this specialisation must submit their own evidence-based industry experience portfolio for membership accreditation review.

### Program objectives

On completion of this program graduates should be able to:

- (1) Apply specialised and advanced theoretical knowledge that underpins the relevant engineering discipline to enable critical reflection on professional practice.
- (2) Synthesise the social purposes of engineering and evaluate the performance and sustainability of engineered products and systems including the costs and benefits to the community.
- (3) Apply cognitive, technical and creative skills to generate and evaluate concepts and complex ideas across a range of engineering problems reflecting issues of sustainable practice in diverse social, environmental and technical contexts.
- (4) Critically examine and autonomously evaluate evidence when justifying actions for technical, economic, environmental, ethical and cross-cultural issues, including those relevant to indigenous peoples.
- (5) Apply project management skills and competencies in team leadership, communication and technical research to enable delivery of engineering projects within given project constraints.
- (6) Communicate effectively in English, using a range of high-level oral, written and technology-based approaches, to justify theoretical propositions, methodologies, conclusions and professional decisions to specialist and non-specialist audiences.
- (7) Engage in further learning through research, scholarship and critical reflection, including defence of professional and ethical decision-making and apply a high level of personal autonomy and accountability to manage engagement with professional practice that is integrated and captured in their postgraduate program ePortfolio.

## Program Rules

### Students are required to:

- Satisfactorily complete 16 credit points as listed in the standard progression to graduate from the program.
- Satisfactorily complete all courses within 6 years.
- Maintain satisfactory academic achievement throughout the duration of the program, consistent with the UniSQ [Student Academic Progress Procedure](#).
- Meet all mandatory course requirements including attendance of mandatory residential school requirements where this is present in courses.
- Mandatory compliance to program needs for the graduate engineering ePortfolio associated with the program.
- [ENG5001 Professional Skills in Engineering](#) for domestic program intake students) or [ENG5002 Professional Skills for Australian Engineering Workplace](#) (for international program intake students) are the program professional practice entry courses and shall be undertaken at the start of the program.
- Immunisations and vaccinations according to national standards requirements for on-campus mode studies.
- Meet the Inherent Requirements for the Master of Professional Engineering.

## 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 09. Graduates at this level will have specialised knowledge and skills for research, and/or professional practice 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).

## Admission requirements

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

- Completion of an Australian university three or four year Bachelor degree in the area of engineering in the relevant cognate specialisation (major), or equivalent.

Or

Completion of an appropriate four year Bachelor degree in the area of engineering in a non-cognate specialisation (major field), or equivalent.

- English Language Proficiency requirements for Category 3.

To be eligible for advanced standing entry, applicants must satisfy the following requirement:

- Completion of an Australian university four year embedded honours degree in engineering in the same or closely related cognate specialisation (major).

The standing of degrees awarded by an overseas institution will be determined by reference to the Sydney Accord, of which Engineers Australia (EA) is a signatory, and the federal government agency, International Education group, an agency of the Department of Education and Training.

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.

## Inherent requirements

There are inherent requirements for this program that must be met in order to complete the program and graduate. Make sure you read and understand the [requirements](#) for this program online.

## 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 Master of Professional Engineering comprises 16 units (16 single-unit academic courses). The structure is shown below:

**Schedule A:** Six core courses (six units)

**Schedule B:** A six-course specialisation (six units)

**Schedule C:** Four selective courses (four units)

## Required time limits

Students have a maximum of 6 years to complete this program.

## Specialisation

The specialisation study provides students with knowledge and skills in a specific discipline. The specialisation study areas in the Master of Professional Engineering are:

- Aerospace Engineering
- Agricultural Engineering
- Civil Engineering
- Electrical and Electronic Engineering
- Engineering Management and Enterprise
- Environmental Engineering
- Mechanical Engineering
- Power Engineering
- Structural Engineering

## 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, and also as embedded in their discipline cognate major and other core program courses.

All students must attend residential schools during their program to obtain experience in practical and professional activities appropriate to the program. The dates for each residential school Practice course are shown in the [Residential School schedule](#) in this Handbook and 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 from all discipline majors shall enrol during their final year of study in the core program single study load unit practical EBE6002 Advanced System Design and Innovation (noting pre-requisite requirements), which includes one or more mandatory embedded residential school depending on the cognate major of enrolment.

International students shall undertake [ENG5002 Professional Skills for Australian Engineering Workplace](#) as their first enrolment on entry into the program as an intensive mandatory on-campus residential school for orientation into this master's degree program, the UniSQ educational framework for post-graduate students and orientation to the Australian Culture and engineering workplace. During 2023 this course will be offered at the beginning of Semester 1 and 2, and thereafter in the new academic calendar from mid-January in 2024 in Block 2, Block 4 or Block 6.

## Articulation

Students who have completed the Master of Professional Engineering are able to apply for entry to the [Master of Research](#) or [Doctor of Philosophy](#). The Master of Professional Engineering core program courses [EBE5003](#), [ENG5105](#), EBE6002, EBE6411 and EBE6412 constitute 5 mandatory units of masters level research (and innovation) for articulation into Higher Degree Research (HDR) programs.

## Exit points

Students who have completed four courses in the program may satisfy the requirements for the [Graduate Certificate of Professional Engineering](#) and therefore may apply to exit the program with a [Graduate Certificate of Professional Engineering](#).

Students who have completed eight courses in the program may satisfy the requirements for the [Graduate Diploma of Professional Engineering](#) and therefore may apply to exit the program with a [Graduate Diploma of Professional Engineering](#).

## Credit

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

## Enrolment

Students should note that some of the courses specify enrolment requirements (prerequisites). Students should therefore refer to the [Course Specification](#) section to determine the enrolment requirements for the courses they intend enrolling in. Students should avoid enrolling in courses for which they do not have sufficient pre-requisite knowledge. Students will be expected to rectify any deficiencies in their pre-requisite knowledge by private study, guided if necessary, by the examiners of the relevant courses. Entrants may need to undertake approved courses to address foundation knowledge in the non-cognate specialisation, in lieu of course credit in the standard recommended enrolment structure. Students should contact UniSQ Support via [usq.support@usq.edu.au](mailto:usq.support@usq.edu.au) if they encounter problems while enrolling in courses with requisites.

Potential applicants who do not have the requisite engineering qualifications for direct entry into the Master of Professional Engineering, but come from science degree backgrounds, can request potential special enrolment consideration to undertake the Graduate Certificate of Professional Engineering or [Graduate Certificate of Professional Practice](#) for successful transitional studies completion to then be considered for articulation into the Master of Professional Engineering Program.

The following enrolment patterns are for Master of Professional Engineering students only and apply to successful entry applicants into this program.

International students are permitted to undertake one unit load of study per semester by online studies, or from 2024 academic year start, one unit load of study per trimester by online studies.

International students shall undertake the mandatory [ENG5002](#) intensive residential courses as their first unit of study after acceptance into the program.

## Aerospace Engineering specialisation recommended enrolment pattern

Specialisation: Aerospace Engineering (Specialisation Study Code: TBA)							
Course	Year of program and semester in which course is normally studied						Enrolment requirements
	On-campus (ONC)		External (EXT)		Online (ONL)		
	Year	Sem	Year	Sem	Year	Sem	
Schedule A: Program Core Courses <i>Students must complete all six courses listed in this schedule</i>							
International Entry Students Only							
ENG5002 Professional Skills for Australian Engineering Workplace <sup>^^</sup>	1	1,2					
Domestic Entry Students Only							
ENG5001 Professional Skills in Engineering <sup>†</sup>	1	1,2,3			1	1,2,3	
All students to complete							
EBE5003 Research Training	1	1,2			1	1,2	Pre-requisite: (ENG5001 or ENG5002) and Students must be enrolled in one of the fol

Specialisation: Aerospace Engineering (Specialisation Study Code: TBA)							
Course	Year of program and semester in which course is normally studied						Enrolment requirements
	On-campus (ONC)		External (EXT)		Online (ONL)		
	Year	Sem	Year	Sem	Year	Sem	
							lowing Programs: MENS or GDNS or GCNS Pre-requisite or Co-requisite: <a href="#">ENG5105</a>
<a href="#">ENG5105 Advanced Numerical Modelling</a>	1	2			1	2	Pre-requisite: Students must be enrolled in one of the following Programs: GCNS or GDNS or MENS or MEPR
EBE6002 Advanced System Design and Innovation <sup>^*</sup>	2						
EBE6411 Masters Research Project Part 1 <sup>*</sup>	2						
EBE6412 Masters Research Project Part 2 <sup>*</sup>	2						
<b>Schedule B: Aerospace Engineering Specialisation Core Courses</b> <i>Students must complete all six courses listed in this schedule</i>							
<b>All students to complete</b>							
<a href="#">ENG5500 Advanced Aerospace Systems</a>	1	2			1	2	Pre-requisite: Students must be enrolled in the following Program: MENS (Aerospace Engineering specialisation)
<a href="#">ENG6208 Advanced Engineering Project Management</a>	1	1			1	1	
<b>For students from undergraduate mechanical discipline strand for Aerodynamics and Propulsion Sub-specialisation (4 units)</b>							
<b>International Entry Students only</b>							
<a href="#">MEC5107 Thermofluids</a>	1,2	2			1,2	2	Pre-requisite: Students must be enrolled in one of the following Programs: GCNS or GDNS or MENS
<b>Domestic Entry Students only</b>							
<a href="#">MEC4108 Advanced Thermofluids</a>	1,2	1			1,2	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, MEC4103
<b>All Aerodynamic &amp; Propulsion Sub-specialisation Students to complete</b>							
<a href="#">MEC5100 Computational Fluid Dynamics</a>					1	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="#">MEC5109 Aerospace Propulsion Systems</a>	2	2			2	2	Pre-requisite: <a href="#">MEC3107</a> or <a href="#">MEC4108</a> or <a href="#">MEC5107</a>
MEC6109 Advanced Gas Dynamics <sup>*</sup>	2						
<b>For undergraduates from mechanical/structural discipline strands entering Aerospace Transport Structures Sub-specialisation (4 units)</b>							
<a href="#">MEC4302 Computational Mechanics in Design</a>	1,2	1			1,2	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="#">MEC5203 Fibre Reinforced Composites</a>	1,2	2			1,2	2	Pre-requisite: ( <a href="#">MEC1201</a> and ( <a href="#">ENM2600</a> or <a href="#">MAT2100</a> ) and <a href="#">MEC2402</a> ) or Students must be enrolled in one of the following Programs: GCNS or GDNS or MEPR or MENS



Specialisation: Aerospace Engineering (Specialisation Study Code: TBA)							
Course	Year of program and semester in which course is normally studied						Enrolment requirements
	On-campus (ONC)		External (EXT)		Online (ONL)		
	Year	Sem	Year	Sem	Year	Sem	
MEC6203 Advanced Materials Technology *	2						
MEC6306 Advanced Aerospace Transport Structures *					2		
For students from undergraduate Electrical and Electronic Strands entering Aerospace Electrical Engineering Sub-specialisation (4 units)							
MEC6203 Advanced Materials Technology *	2						
ELE5605 Electro-Magnetic Modelling	2	2			2	2,3	Pre-requisite: ELE4605 or Students must be enrolled in one of the following Programs: MENS or MEPR or GCNS or GDNS
ELE6005 Electronic Systems Integration *	2						
ELE6006 Aerospace Communications, Data and Navigation *	2						
Schedule C: Aerospace Engineering Specialisation Selective Courses (4 unit load required)							
Choose one from the following							
ENG6104 Asset Management in an Engineering Environment	1,2	1			1,2	1	
OR							
ENG6205 Project Management Practice	1,2	2			1,2	2	
OR							
ENG6207 Innovation Management and New Product Development <sup>£</sup>					1,2	3	
Mechanical Engineering Aerospace Sub-disciplines - choose three from the following (3 units)							
ENM2600 Advanced Engineering Mathematics <sup>§</sup>	1,2	1			1,2	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
STA6200 Statistics for Quantitative Researchers	1,2	1			1,2	1,2	Enrolment is not permitted in STA6200 if S TA2300 or STA1003 or STA1004 has been previously completed
MEC5203 Fibre Reinforced Composites	1,2	2			1,2	2	Pre-requisite: (MEC1201 and (ENM2600 or MAT2100) and MEC2402) or Students must be enrolled in one of the following Programs: GCNS or GDNS or MEPR or MENS
MEC4108 Advanced Thermofluids	1,2	1			1,2	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
MEC6203 Advanced Materials Technology *	2						
MEC4406 Robotics and Machine Vision	1,2	2			1,2	2	Pre-requisite: MEC2401 or ELE2103 or Students must be enrolled in one of the following Programs: MENS or GCEN
MEC4104 Renewable Energy Technology	2	2			2	2	Pre-requisite: ((MEC2101 and MEC3102) or MEC2106) or Students must be enrolled in one of the following Programs: GCEN or

Specialisation: Aerospace Engineering (Specialisation Study Code: TBA)							
Course	Year of program and semester in which course is normally studied						Enrolment requirements
	On-campus (ONC)		External (EXT)		Online (ONL)		
	Year	Sem	Year	Sem	Year	Sem	
							GCNS or GDNS or METC or MENS or MEPR
<a href="#">MEC4403 Advanced Dynamics</a>	1	2			1	2	Pre-requisite: ( <a href="#">MEC2401</a> and (MAT2500 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="#">MEC5100 Computational Fluid Dynamics</a>					1	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="#">MEC5105 Combustion</a> <sup>\$</sup>					1	2	Pre-requisite: <a href="#">MEC3107</a> or MEC3102 or <a href="#">MEC4108</a> or <a href="#">MEC5107</a> or Students must be enrolled in the following Program: MEPR
<a href="#">MEC5109 Aerospace Propulsion Systems</a>	2	2			2	2	Pre-requisite: <a href="#">MEC3107</a> or <a href="#">MEC4108</a> or <a href="#">MEC5107</a>
<a href="#">MEC6109 Advanced Gas Dynamics</a> <sup>*</sup>	2						
<a href="#">MEC6306 Advanced Aerospace Transport Structures</a> <sup>*</sup>					2		
<b>Electrical Engineering Aerospace Sub-discipline - choose three from the following (3 units)</b>							
<a href="#">ENM2600 Advanced Engineering Mathematics</a> <sup>\$</sup>	1,2	1			1,2	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="#">STA6200 Statistics for Quantitative Researchers</a>	1,2	1			1,2	1,2	Enrolment is not permitted in <a href="#">STA6200</a> if <a href="#">STA2300</a> or <a href="#">STA1003</a> or <a href="#">STA1004</a> has been previously completed
<a href="#">ELE4605 Fields and Waves</a>	1,2	1			1,2	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
<a href="#">ELE4606 Communication Systems</a>	1,2	2			1,2	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="#">MEC4104 Renewable Energy Technology</a>	2	2			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="#">ELE4307 Real Time Systems</a>	1	2			1	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="#">ELE4109 Measurement Science and Instrument Engineering</a> <sup>\$</sup>					1,2	1	
<a href="#">MEC4406 Robotics and Machine Vision</a>	1,2	2			1,2	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

#### Footnotes

^^ Mandatory on-campus residential school

† Unavailable in S3 2023

^ Mandatory group capstone practical

\* First Offer in 2024 academic year

£ 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

\$ This course is only offered in odd years



**Notes:**

Consult the School of Engineering Program Director via [usq.support@usq.edu.au](mailto:usq.support@usq.edu.au) to seek any non-standard enrolment approval.

Level 6 and/or level 8 courses from other areas of study may be chosen as approved courses with the approval of the School of Engineering.

Core program courses [EBE5003](#), [ENG5105](#), EBE6002, EBE6411 and EBE6412 constitute 5 mandatory units of masters level research (and innovation) content in this MENS program, for possible articulation into Higher Degree Research PhD programs after graduation.

## Agricultural Engineering specialisation recommended enrolment pattern

Specialisation: Agricultural Engineering (Specialisation Study Code: 16215)							
Course	Year of program and semester in which course is normally studied						Enrolment requirements
	On-campus (ONC)		External (EXT)		Online (ONL)		
	Year	Sem	Year	Sem	Year	Sem	
<b>Schedule A: Program Core Courses</b> <i>Students must complete all six courses listed in this schedule</i>							
<b>International Entry Students Only</b>							
<a href="#">ENG5002 Professional Skills for Australian Engineering Workplace</a> <sup>^^</sup>	1	1,2					
<b>Domestic Entry Students Only</b>							
<a href="#">ENG5001 Professional Skills in Engineering</a> <sup>†</sup>	1	1,2,3			1	1,2,3	
<b>All students to complete</b>							
<a href="#">EBE5003 Research Training</a>	1	1,2			1	1,2	Pre-requisite: ( <a href="#">ENG5001</a> or <a href="#">ENG5002</a> ) and Students must be enrolled in one of the following Programs: MENS or GDNS or GCNS Pre-requisite or Co-requisite: <a href="#">ENG5105</a>
<a href="#">ENG5105 Advanced Numerical Modelling</a>	1	2			1	2	Pre-requisite: Students must be enrolled in one of the following Programs: GCNS or GDNS or MENS or MEPR
<a href="#">EBE6002 Advanced System Design and Innovation</a> <sup>^^</sup>	2						
<a href="#">EBE6411 Masters Research Project Part 1</a> <sup>*</sup>	2						
<a href="#">EBE6412 Masters Research Project Part 2</a> <sup>*</sup>	2						
<b>Schedule B: Agricultural Engineering Specialisation Core Courses</b> <i>Students must complete all six courses listed in this schedule</i>							
<a href="#">ENV4106 Irrigation Science</a>	1	2			1	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>	1	2			1	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="#">AGR4305 Agricultural Soil Mechanics</a>	1	1			1	1	
<a href="#">ENV5104 Advanced Hydraulic Systems</a>	1,2	1				1	Pre-requisite: Students must be enrolled in one of the following Programs: GCNS or GDNS or MENS or MEPR
<a href="#">AGR6002 Emerging Technologies in Agriculture</a> <sup>*</sup>	2						
<a href="#">AGR6305 Applications of Advanced Technology in Agriculture</a> <sup>*</sup>	2						
<b>Schedule C: Agricultural Engineering Specialisation Selective Courses</b> (4 unit load required)							
<b>Advanced Management Courses – mandatory to choose one of each paired option listed (2 units)</b>							
<b>Course A = Mandatory Choose 1</b>							
<a href="#">ENG6208 Advanced Engineering Project Management</a>	1,2	1			1,2	1	

Specialisation: Agricultural Engineering (Specialisation Study Code: 16215)							
Course	Year of program and semester in which course is normally studied						Enrolment requirements
	On-campus (ONC)		External (EXT)		Online (ONL)		
	Year	Sem	Year	Sem	Year	Sem	
OR							
ENG6205 Project Management Practice	1,2	2			1,2	2	
Course B = Mandatory Choose 1							
ENG6104 Asset Management in an Engineering Environment	1,2	1			1,2	1	
OR							
ENG6207 Innovation Management and New Product Development <sup>£</sup>					1,2	3	
Choose two from the following selectives (2 units)							
ENM2600 Advanced Engineering Mathematics <sup>§</sup>	1,2	1			1,2	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
STA6200 Statistics for Quantitative Researchers	2	1			2	1,2	Enrolment is not permitted in STA6200 if S TA2300 or STA1003 or STA1004 has been previously completed
CLI8003 Climate, Food, Water and Energy Security					2	2	
MEC4108 Advanced Thermofluids	1,2	1			1,2	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
ENV4203 Public Health Engineering	1,2	2			1,2	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	1,2	1			1,2	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
MEC4406 Robotics and Machine Vision	1,2	2			1,2	2	Pre-requisite: MEC2401 or ELE2103 or Students must be enrolled in one of the following Programs: MENS or GCEN
MEC5100 Computational Fluid Dynamics					2	1	Pre-requisite: MEC3107 or MEC3102 or MEC4108 or MEC5107 or ENV3104 or ENV5104 or Students must be enrolled in the following Program: MEPR

#### Footnotes

^^ Mandatory on-campus residential school

† Unavailable in S3 2023

^ Mandatory group capstone practical

\* First Offer in 2024 academic year

£ 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

#### Notes:

Consult the School of Engineering Program Director via [usq.support@usq.edu.au](mailto:usq.support@usq.edu.au) to seek any non-standard enrolment approval.

Level 6 and/or level 8 courses from other areas of study may be chosen as approved courses with the approval of the School of Engineering.

Core program courses EBE5003, ENG5105, EBE6002, EBE6411 and EBE6412 constitute 5 mandatory units of masters level research (and innovation) content in this MENS program, for possible articulation into Higher Degree Research PhD programs after graduation.

## Civil Engineering specialisation recommended enrolment pattern

Specialisation: Civil Engineering (Specialisation Study Code: 16216)							
Course	Year of program and semester in which course is normally studied						Enrolment requirements
	On-campus (ONC)		External (EXT)		Online (ONL)		
	Year	Sem	Year	Sem	Year	Sem	
<b>Schedule A: Program Core Courses</b> <i>Students must complete all six courses listed in this schedule</i>							
<b>International Entry Students Only</b>							
<a href="#">ENG5002 Professional Skills for Australian Engineering Workplace</a> <sup>^^</sup>	1	1,2					
<b>Domestic Entry Students Only</b>							
<a href="#">ENG5001 Professional Skills in Engineering</a> <sup>†</sup>	1	1,2,3			1	1,2,3	
<b>All students to complete</b>							
<a href="#">EBE5003 Research Training</a>	1	1,2			1	1,2	Pre-requisite: ( <a href="#">ENG5001</a> or <a href="#">ENG5002</a> ) and Students must be enrolled in one of the following Programs: MENS or GDNS or GCNS Pre-requisite or Co-requisite: <a href="#">ENG5105</a>
<a href="#">ENG5105 Advanced Numerical Modelling</a>	1	2			1	2	Pre-requisite: Students must be enrolled in one of the following Programs: GCNS or GDNS or MENS or MEPR
<a href="#">EBE6002 Advanced System Design and Innovation</a> <sup>^*</sup>	2						
<a href="#">EBE6411 Masters Research Project Part 1</a> <sup>*</sup>	2						
<a href="#">EBE6412 Masters Research Project Part 2</a> <sup>*</sup>	2						
<b>Schedule B: Civil Engineering Specialisation Core Courses</b> <i>Students must complete all six courses listed in this schedule</i>							
<a href="#">CIV4505 Structural Analysis</a>	1	1			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="#">CIV4508 Structural Design II</a>	1	1			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
<a href="#">ENV4203 Public Health Engineering</a>	1	2			1	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="#">CIV5403 Advanced Geotechnical Engineering</a>	1,2	2			1,2	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="#">ENV5104 Advanced Hydraulic Systems</a>	1,2	1			1,2	1	Pre-requisite: Students must be enrolled in one of the following Programs: GCNS or GDNS or MENS or MEPR
<a href="#">CIV5704 Road and Street Engineering</a>					2	2	

Specialisation: Civil Engineering (Specialisation Study Code: 16216)							
Course	Year of program and semester in which course is normally studied						Enrolment requirements
	On-campus (ONC)		External (EXT)		Online (ONL)		
	Year	Sem	Year	Sem	Year	Sem	
Schedule C: Civil Engineering Specialisation Selective Courses (4 unit load required)							
Advanced Management Courses – mandatory to choose one of each paired option listed (2 units)							
Course A = Mandatory Choose 1							
<a href="#">ENG6208 Advanced Engineering Project Management</a>	1,2	1			1,2	1	
OR							
<a href="#">ENG6205 Project Management Practice</a>	1,2	2			1,2	2	
Course B = Mandatory Choose 1							
<a href="#">ENG6104 Asset Management in an Engineering Environment</a>	1,2	1			1,2	1	
OR							
<a href="#">ENG6207 Innovation Management and New Product Development<sup>£</sup></a>					1,2	3	
Choose two from the following selectives (2 units)							
<a href="#">ENM2600 Advanced Engineering Mathematics<sup>§</sup></a>	1,2	1			1,2	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="#">STA6200 Statistics for Quantitative Researchers</a>	1,2	1			1,2	1,2	Enrolment is not permitted in <a href="#">STA6200</a> if <a href="#">STA2300</a> or <a href="#">STA1003</a> or <a href="#">STA1004</a> has been previously completed
<a href="#">CIV6802 Advanced Prestressed Concrete<sup>§</sup></a>					2	2	
<a href="#">ENV4205 Water and Wastewater Treatment</a>					1	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
<a href="#">CIV4506 Concrete Structures</a>	1,2	1			1,2	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="#">CIV5705 Pavement Design and Analysis</a>					1,2	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

#### Footnotes

- ^^ Mandatory on-campus residential school  
† Unavailable in S3 2023  
^ Mandatory group capstone practical  
\* First Offer in 2024 academic year  
£ 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  
\$ This course is only offered in odd years

#### Notes:

Consult the School of Engineering Program Director via [usq.support@usq.edu.au](mailto:usq.support@usq.edu.au) to seek any non-standard enrolment approval.

Level 6 and/or level 8 courses from other areas of study may be chosen as approved courses with the approval of the School of Engineering.

Core program courses [EBE5003](#), [ENG5105](#), [EBE6002](#), [EBE6411](#) and [EBE6412](#) constitute 5 mandatory units of masters level research (and innovation) content in this MENS program, for possible articulation into Higher Degree Research PhD programs after graduation.

## Electrical and Electronic Engineering specialisation recommended enrolment pattern

Specialisation: Electrical and Electronic Engineering (Specialisation Study Code: 16217)							
Course	Year of program and semester in which course is normally studied						Enrolment requirements
	On-campus (ONC)		External (EXT)		Online (ONL)		
	Year	Sem	Year	Sem	Year	Sem	
<b>Schedule A: Program Core Courses</b> <i>Students must complete all six courses listed in this schedule</i>							
<b>International Entry Students Only</b>							
<a href="#">ENG5002 Professional Skills for Australian Engineering Workplace</a> <sup>^^</sup>	1	1,2					
<b>Domestic Entry Students Only</b>							
<a href="#">ENG5001 Professional Skills in Engineering</a> <sup>†</sup>	1	1,2,3			1	1,2,3	
<b>All students to complete</b>							
<a href="#">EBE5003 Research Training</a>	1	1,2			1	1,2	Pre-requisite: ( <a href="#">ENG5001</a> or <a href="#">ENG5002</a> ) and Students must be enrolled in one of the following Programs: MENS or GDNS or GCNS Pre-requisite or Co-requisite: <a href="#">ENG5105</a>
<a href="#">ENG5105 Advanced Numerical Modelling</a>	1	2			1	2	Pre-requisite: Students must be enrolled in one of the following Programs: GCNS or GDNS or MENS or MEPR
<a href="#">EBE6002 Advanced System Design and Innovation</a> <sup>^*</sup>	2						
<a href="#">EBE6411 Masters Research Project Part 1</a> <sup>*</sup>	2						
<a href="#">EBE6412 Masters Research Project Part 2</a> <sup>*</sup>	2						
<b>Schedule B: Electrical and Electronic Engineering Specialisation Core Courses</b> <i>Students must complete all six courses listed in this schedule</i>							
<a href="#">ELE4605 Fields and Waves</a>	1	1			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
<a href="#">ELE4606 Communication Systems</a>	1	2			1	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="#">ELE4807 Power Systems Analysis</a>	1	1			1	1	
<a href="#">ELE5001 Industrial Communications Protocols</a>	1,2	1			1,2	1	Pre-requisite: <a href="#">ELE2601</a> or Students must be enrolled in the following Program: GCNS, GDNS, MENS or MEPR
<a href="#">ELE5605 Electro-Magnetic Modelling</a>	1,2	2			1,2	2,3	Pre-requisite: <a href="#">ELE4605</a> or Students must be enrolled in one of the following Programs: MENS or MEPR or GCNS or GDNS
<a href="#">ELE6005 Electronic Systems Integration</a> <sup>*</sup>	2						
<b>Schedule C: Electrical and Electronic Engineering Specialisation Selective Courses</b> (4 unit load required)							
<b>Advanced Management Courses – mandatory to choose one of each paired option listed (2 units)</b>							
<b>Course A = Mandatory Choose 1</b>							
<a href="#">ENG6208 Advanced Engineering Project Management</a>	1,2	1			1,2	1	
<b>OR</b>							
<a href="#">ENG6205 Project Management Practice</a>	1,2	2			1,2	2	

Specialisation: Electrical and Electronic Engineering (Specialisation Study Code: 16217)							
Course	Year of program and semester in which course is normally studied						Enrolment requirements
	On-campus (ONC)		External (EXT)		Online (ONL)		
	Year	Sem	Year	Sem	Year	Sem	
<b>Course B = Mandatory Choose 1</b>							
ENG6104 Asset Management in an Engineering Environment	1,2	1			1,2	1	
<i>OR</i>							
ENG6207 Innovation Management and New Product Development <sup>£</sup>					1,2	3	
<b>Choose two from the following selectives (2 units)</b>							
ENM2600 Advanced Engineering Mathematics <sup>§</sup>	1,2	1			1,2	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
STA6200 Statistics for Quantitative Researchers	1,2	1			1,2	1,2	Enrolment is not permitted in STA6200 if S TA2300 or STA1003 or STA1004 has been previously completed
ELE4607 Advanced Digital Communications	1,2	1			1,2	1	Pre-requisite: ELE1301 or Students must be enrolled in one of the following Programs: GCEN or METC or GCNS or GDNS or MENS or MEPR
MEC4406 Robotics and Machine Vision	1,2	2			1,2	2	Pre-requisite: MEC2401 or ELE2103 or Students must be enrolled in one of the following Programs: MENS or GCEN
ELE4109 Measurement Science and Instrument Engineering <sup>\$</sup>					1,2	1	

#### Footnotes

- ^^ Mandatory on-campus residential school  
† Unavailable in S3 2023  
^ Mandatory group capstone practical  
\* First Offer in 2024 academic year  
£ 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  
\$ This course is only offered in odd years

#### Notes:

Consult the School of Engineering Program Director via [usq.support@usq.edu.au](mailto:usq.support@usq.edu.au) to seek any non-standard enrolment approval.

Level 6 and/or level 8 courses from other areas of study may be chosen as approved courses with the approval of the School of Engineering.

Core program courses EBE5003, ENG5105, EBE6002, EBE6411 and EBE6412 constitute 5 mandatory units of masters level research (and innovation) content in this MENS program, for possible articulation into Higher Degree Research PhD programs after graduation.

## Engineering Management and Enterprise specialisation recommended enrolment pattern

Specialisation: Engineering Management and Enterprise (Specialisation Study Code: 16289)							
Course	Year of program and semester in which course is normally studied						Enrolment requirements
	On-campus (ONC)		External (EXT)		Online (ONL)		
	Year	Sem	Year	Sem	Year	Sem	
Schedule A: Program Core Courses <i>Students must complete all six courses listed in this schedule</i>							
International Entry Students Only							
ENG5002 Professional Skills for Australian Engineering Workplace <sup>^^</sup>	1	1,2					



Specialisation: Engineering Management and Enterprise (Specialisation Study Code: 16289)							
Course	Year of program and semester in which course is normally studied						Enrolment requirements
	On-campus (ONC)		External (EXT)		Online (ONL)		
	Year	Sem	Year	Sem	Year	Sem	
Domestic Entry Students Only							
ENG5001 Professional Skills in Engineering <sup>†</sup>	1	1,2,3			1	1,2,3	
All students to complete							
EBE5003 Research Training	1	1,2			1	1,2	Pre-requisite: (ENG5001 or ENG5002) and Students must be enrolled in one of the following Programs: MENS or GDNS or GCNS Pre-requisite or Co-requisite: ENG5105
ENG5105 Advanced Numerical Modelling	1	2			1	2	Pre-requisite: Students must be enrolled in one of the following Programs: GCNS or GDNS or MENS or MEPR
EBE6002 Advanced System Design and Innovation <sup>^*</sup>	2						
EBE6411 Masters Research Project Part 1 <sup>*</sup>	2						
EBE6412 Masters Research Project Part 2 <sup>*</sup>	2						
Schedule B: Engineering Management and Enterprise Specialisation Core Courses <i>Students must complete all six courses listed in this schedule</i>							
ENG6104 Asset Management in an Engineering Environment	1,2	1			1,2	1	
ENG6205 Project Management Practice	1,2	2			1,2	2	
ENG6207 Innovation Management and New Product Development <sup>£</sup>					1,2	3	
FIN8201 Corporate Finance	1,2	1			1,2	1	
GIS2407 Web Based Geographic Information System	1,2	2			1,2	2	Pre-requisite: GIS1402 or Students must be enrolled in one of the following Programs: GCST or GDST or MSST or MSPT or GCNS or GDNS or MENS
MGT8049 Building an Engaged Workforce					1,2	1	
Schedule C: Engineering Management and Enterprise Specialisation Selective Courses (4 unit load required)							
Advanced Management Courses – mandatory to choose 4 units							
Choose 2 of the following 3							
MGT8034 Strategic Management of Human Resources and Innovation					1,2	3	
OR							
MGT8074 Project Team Leadership <sup>^^</sup>	1,2	2			1,2	2	Enrolment is not permitted in MGT8074 if MGT8027 has been previously completed.
OR							
MGT8040 Entrepreneurship, Innovation and Creativity					1,2	2	
Choose 2 from any other single discipline strand offered in the MENS program, choose two technical engineering Schedule B courses from other discipline majors.							

**Footnotes**

- <sup>^^</sup> Mandatory on-campus residential school  
<sup>†</sup> Unavailable in S3 2023  
<sup>^</sup> Mandatory group capstone practical  
<sup>\*</sup> First Offer in 2024 academic year

£ 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

**Notes:**

Consult the School of Engineering Program Director via [usq.support@usq.edu.au](mailto:usq.support@usq.edu.au) to seek any non-standard enrolment approval.

Level 6 and/or level 8 courses from other areas of study may be chosen as approved courses with the approval of the School of Engineering.

Core program courses [EBE5003](#), [ENG5105](#), EBE6002, EBE6411 and EBE6412 constitute 5 mandatory units of masters level research (and innovation) content in this MENS program, for possible articulation into Higher Degree Research PhD programs after graduation.

## Environmental Engineering specialisation recommended enrolment pattern

Specialisation: Environmental Engineering (Specialisation Study Code: 16218)							
Course	Year of program and semester in which course is normally studied						Enrolment requirements
	On-campus (ONC)		External (EXT)		Online (ONL)		
	Year	Sem	Year	Sem	Year	Sem	
<b>Schedule A: Program Core Courses</b> <i>Students must complete all six courses listed in this schedule</i>							
<b>International Entry Students Only</b>							
<a href="#">ENG5002 Professional Skills for Australian Engineering Workplace</a> <sup>^^</sup>	1	1,2					
<b>Domestic Entry Students Only</b>							
<a href="#">ENG5001 Professional Skills in Engineering</a> <sup>†</sup>	1	1,2,3			1	1,2,3	
<b>All students to complete</b>							
<a href="#">EBE5003 Research Training</a>	1	1,2			1	1,2	Pre-requisite: ( <a href="#">ENG5001</a> or <a href="#">ENG5002</a> ) and Students must be enrolled in one of the following Programs: MENS or GDNS or GCNS Pre-requisite or Co-requisite: <a href="#">ENG5105</a>
<a href="#">ENG5105 Advanced Numerical Modelling</a>	1	2			1	2	Pre-requisite: Students must be enrolled in one of the following Programs: GCNS or GDNS or MENS or MEPR
<a href="#">EBE6002 Advanced System Design and Innovation</a> <sup>^*</sup>	2						
<a href="#">EBE6411 Masters Research Project Part 1</a> <sup>*</sup>	2						
<a href="#">EBE6412 Masters Research Project Part 2</a> <sup>*</sup>	2						
<b>Schedule B: Environmental Engineering Specialisation Core Courses</b> <i>Students must complete all six courses listed in this schedule</i>							
<a href="#">ENV4107 Water Resources Engineering</a>	1	2			1	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>	1	2			1	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>	1	1			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="#">ENV4205 Water and Wastewater Treatment</a>					1,2	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
<a href="#">ENV5104 Advanced Hydraulic Systems</a>	1,2	1			1,2	1	Pre-requisite: Students must be enrolled in one of the following Programs: GCNS or GDNS or MENS or MEPR
<a href="#">ENV6103 Advanced Environmental Modelling</a> <sup>*</sup>	2						

Specialisation: Environmental Engineering (Specialisation Study Code: 16218)							
Course	Year of program and semester in which course is normally studied						Enrolment requirements
	On-campus (ONC)		External (EXT)		Online (ONL)		
	Year	Sem	Year	Sem	Year	Sem	
Schedule C: Environmental Engineering Specialisation Selective Courses (4 unit load required)							
Advanced Management Courses – mandatory to choose one of each paired option listed (2 units)							
Course A = Mandatory Choose 1							
ENG6208 Advanced Engineering Project Management	1,2	1			1,2	1	
OR							
ENG6205 Project Management Practice	1,2	2			1,2	2	
Course B = Mandatory Choose 1							
ENG6104 Asset Management in an Engineering Environment	1,2	1			1,2	1	
OR							
ENG6207 Innovation Management and New Product Development <sup>£</sup>					1,2	3	
Choose two from the following selectives (2 units)							
ENM2600 Advanced Engineering Mathematics <sup>§</sup>	1,2	1			1,2	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
STA6200 Statistics for Quantitative Researchers	1,2	1			1,2	1,2	Enrolment is not permitted in STA6200 if S TA2300 or STA1003 or STA1004 has been previously completed
CLI8204 Global Environmental Systems					2	1	
ENV4106 Irrigation Science	1	2			1	2	Pre-requisite: AGR3304 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.
AGR4305 Agricultural Soil Mechanics	1,2	1			1,2	1	
MEC5100 Computational Fluid Dynamics					2	1	Pre-requisite: MEC3107 or MEC3102 or MEC4108 or MEC5107 or ENV3104 or ENV5104 or Students must be enrolled in the following Program: MEPR
REN8101 Environment, Society and Sustainability					1,2	1	Enrolment is not permitted in REN8101 if REN1201 has been previously completed.

#### Footnotes

- ^^ Mandatory on-campus residential school  
† Unavailable in S3 2023  
^ Mandatory group capstone practical  
\* First Offer in 2024 academic year  
£ 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

#### Notes:

Consult the School of Engineering Program Director via [usq.support@usq.edu.au](mailto:usq.support@usq.edu.au) to seek any non-standard enrolment approval.

Level 6 and/or level 8 courses from other areas of study may be chosen as approved courses with the approval of the School of Engineering.

Core program courses [EBE5003](#), [ENG5105](#), [EBE6002](#), [EBE6411](#) and [EBE6412](#) constitute 5 mandatory units of masters level research (and innovation) content in this MENS program, for possible articulation into Higher Degree Research PhD programs after graduation.

## Mechanical Engineering specialisation recommended enrolment pattern

Specialisation: Mechanical Engineering (Specialisation Study Code: 16220)							
Course	Year of program and semester in which course is normally studied						Enrolment requirements
	On-campus (ONC)		External (EXT)		Online (ONL)		
	Year	Sem	Year	Sem	Year	Sem	
<b>Schedule A: Program Core Courses</b> <i>Students must complete all six courses listed in this schedule</i>							
<b>International Entry Students Only</b>							
<a href="#">ENG5002 Professional Skills for Australian Engineering Workplace</a> <sup>^^</sup>	1	1,2					
<b>Domestic Entry Students Only</b>							
<a href="#">ENG5001 Professional Skills in Engineering</a> <sup>†</sup>	1	1,2,3			1	1,2,3	
<b>All students to complete</b>							
<a href="#">EBE5003 Research Training</a>	1	1,2			1	1,2	Pre-requisite: ( <a href="#">ENG5001</a> or <a href="#">ENG5002</a> ) and Students must be enrolled in one of the following Programs: MENS or GDNS or GCNS Pre-requisite or Co-requisite: <a href="#">ENG5105</a>
<a href="#">ENG5105 Advanced Numerical Modelling</a>	1	2			1	2	Pre-requisite: Students must be enrolled in one of the following Programs: GCNS or GDNS or MENS or MEPR
<a href="#">EBE6002 Advanced System Design and Innovation</a> <sup>^*</sup>	2						
<a href="#">EBE6411 Masters Research Project Part 1</a> <sup>*</sup>	2						
<a href="#">EBE6412 Masters Research Project Part 2</a> <sup>*</sup>	2						
<b>Schedule B: Mechanical Engineering Specialisation Core Courses</b> <i>Students must complete all six courses listed in this schedule</i>							
<b>International Entry Students Only</b>							
<a href="#">MEC5107 Thermofluids</a>	1,2	2			1,2	2	Pre-requisite: Students must be enrolled in one of the following Programs: GCNS or GDNS or MENS
<b>Domestic Entry Students Only</b>							
<a href="#">MEC4108 Advanced Thermofluids</a>	1,2	1			1,2	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>
<b>All Students to complete</b>							
<a href="#">MEC4104 Renewable Energy Technology</a>	1	2			1	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="#">MEC4403 Advanced Dynamics</a>	1	2			1	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="#">MEC4302 Computational Mechanics in Design</a>	1	1			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

Specialisation: Mechanical Engineering (Specialisation Study Code: 16220)							
Course	Year of program and semester in which course is normally studied						Enrolment requirements
	On-campus (ONC)		External (EXT)		Online (ONL)		
	Year	Sem	Year	Sem	Year	Sem	
							METC or MEPR or GCNS or GDNS or MENS
<a href="#">MEC5203 Fibre Reinforced Composites</a>	1,2	2			1,2	2	Pre-requisite: ( <a href="#">MEC1201</a> and ( <a href="#">ENM2600</a> or <a href="#">MAT2100</a> ) and <a href="#">MEC2402</a> ) or Students must be enrolled in one of the following Programs: GCNS or GDNS or MEPR or MENS
<a href="#">MEC6203 Advanced Materials Technology</a> *	2						
<b>Schedule C: Mechanical Engineering Specialisation Selective Courses</b> (4 unit load required)							
<b>Advanced Management Courses – mandatory to choose one of each paired option listed (2 units)</b>							
<b>Course A = Mandatory Choose 1</b>							
<a href="#">ENG6208 Advanced Engineering Project Management</a>	1,2	1			1,2	1	
<i>OR</i>							
<a href="#">ENG6205 Project Management Practice</a>	1,2	2			1,2	2	
<b>Course B = Mandatory Choose 1</b>							
<a href="#">ENG6104 Asset Management in an Engineering Environment</a>	1,2	1			1,2	1	
<i>OR</i>							
<a href="#">ENG6207 Innovation Management and New Product Development</a> £					1,2	3	
<b>Choose two from the following selectives (2 units)</b>							
<a href="#">ENM2600 Advanced Engineering Mathematics</a> §	1,2	1			1,2	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="#">STA6200 Statistics for Quantitative Researchers</a>	1,2	1			1,2	1,2	Enrolment is not permitted in <a href="#">STA6200</a> if <a href="#">STA2300</a> or <a href="#">STA1003</a> or <a href="#">STA1004</a> has been previously completed
<a href="#">MEC4406 Robotics and Machine Vision</a>	1,2	2			1,2	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>					2	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> §					2	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="#">MEC5109 Aerospace Propulsion Systems</a>	2	2			2	2	Pre-requisite: <a href="#">MEC3107</a> or <a href="#">MEC4108</a> or <a href="#">MEC5107</a>
<a href="#">MEC6109 Advanced Gas Dynamics</a> *	2						
<a href="#">MEC6306 Advanced Aerospace Transport Structures</a> *					2		

#### Footnotes

^^ Mandatory on-campus residential school

† Unavailable in S3 2023

^ Mandatory group capstone practical

\* First Offer in 2024 academic year

£ 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  
\$ This course is only offered in odd years

**Notes:**

Consult the School of Engineering Program Director via [usq.support@usq.edu.au](mailto:usq.support@usq.edu.au) to seek any non-standard enrolment approval.

Level 6 and/or level 8 courses from other areas of study may be chosen as approved courses with the approval of the School of Engineering.

Core program courses [EBE5003](#), [ENG5105](#), EBE6002, EBE6411 and EBE6412 constitute 5 mandatory units of masters level research (and innovation) content in this MENS program, for possible articulation into Higher Degree Research PhD programs after graduation.

## Power Engineering specialisation recommended enrolment pattern

Specialisation: Power Engineering (Specialisation Study Code: 16221)							
Course	Year of program and semester in which course is normally studied						Enrolment requirements
	On-campus (ONC)		External (EXT)		Online (ONL)		
	Year	Sem	Year	Sem	Year	Sem	
Schedule A: Program Core Courses <i>Students must complete all six courses listed in this schedule</i>							
International Entry Students Only							
ENG5002 Professional Skills for Australian Engineering Workplace <sup>^^</sup>	1	1,2					
Domestic Entry Students Only							
ENG5001 Professional Skills in Engineering <sup>†</sup>	1	1,2,3			1	1,2,3	
All students to complete							
EBE5003 Research Training	1	1,2			1	1,2	Pre-requisite: (ENG5001 or ENG5002) and Students must be enrolled in one of the following Programs: MENS or GDNS or GCNS Pre-requisite or Co-requisite: ENG5105
ENG5105 Advanced Numerical Modelling	1	2			1	2	Pre-requisite: Students must be enrolled in one of the following Programs: GCNS or GDNS or MENS or MEPR
EBE6002 Advanced System Design and Innovation <sup>^*</sup>	2						
EBE6411 Masters Research Project Part 1 <sup>*</sup>	2						
EBE6412 Masters Research Project Part 2 <sup>*</sup>	2						
Schedule B: Power Engineering Specialisation Core Courses <i>Students must complete all six courses listed in this schedule</i>							
ELE4804 Power Systems Protection					1	1	Pre-requisite: ELE1801 or Students must be enrolled in one of the following Programs: GCEN or METC or MEPR or GCNS or GDNS or MENS
ELE4807 Power Systems Analysis	1	1			1	1	
ELE4307 Real Time Systems	1	2			1	2	Pre-requisite: ELE1301 or Students must be enrolled in one of the following Programs: GCNS or GDNS or MENS or MEPR
ELE4708 Electricity Supply Systems and Operations	2	2			2	2	Pre-requisite: Students must be enrolled in one of the following Programs: GCNS or GDNS or MENS or MEPR
ELE5805 Power Electronics and Drive Systems	2	2			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
ELE6804 Advances in Power Engineering <sup>*</sup>							



Specialisation: Power Engineering (Specialisation Study Code: 16221)							
Course	Year of program and semester in which course is normally studied						Enrolment requirements
	On-campus (ONC)		External (EXT)		Online (ONL)		
	Year	Sem	Year	Sem	Year	Sem	
Schedule C: Power Engineering Specialisation Selective Courses (4 unit load required)							
Advanced Management Courses – mandatory to choose one of each paired option listed (2 units)							
Course A = Mandatory Choose 1							
<a href="#">ENG6208 Advanced Engineering Project Management</a>	1,2	1			1,2	1	
OR							
<a href="#">ENG6205 Project Management Practice</a>	1,2	2			1,2	2	
Course B = Mandatory Choose 1							
<a href="#">ENG6104 Asset Management in an Engineering Environment</a>	1,2	1			1,2	1	
OR							
<a href="#">ENG6207 Innovation Management and New Product Development<sup>£</sup></a>					1,2	3	
Choose two from the following selectives (2 units)							
<a href="#">ENM2600 Advanced Engineering Mathematics<sup>§</sup></a>	1,2	1			1,2	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="#">STA6200 Statistics for Quantitative Researchers</a>	1,2	1			1,2	1,2	Enrolment is not permitted in <a href="#">STA6200</a> if <a href="#">STA2300</a> or <a href="#">STA1003</a> or <a href="#">STA1004</a> has been previously completed
<a href="#">GIS2407 Web Based Geographic Information System</a>	1,2	2			1,2	2	Pre-requisite: <a href="#">GIS1402</a> or Students must be enrolled in one of the following Programs: GCST or GDST or MSST or MSPT or GCNS or GDNS or MENS
<a href="#">ELE4506 Industrial Process Automation</a>					1,2	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="#">MEC4104 Renewable Energy Technology</a>	2	2			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="#">ELE5001 Industrial Communications Protocols</a>	2	1			2	1	Pre-requisite: <a href="#">ELE2601</a> or Students must be enrolled in the following Program: GCNS, GDNS, MENS or MEPR

#### Footnotes

- ^^ Mandatory on-campus residential school  
† Unavailable in S3 2023  
^ Mandatory group capstone practical  
\* First Offer in 2024 academic year  
£ 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

#### Notes:

Consult the School of Engineering Program Director via [usq.support@usq.edu.au](mailto:usq.support@usq.edu.au) to seek any non-standard enrolment approval.

Level 6 and/or level 8 courses from other areas of study may be chosen as approved courses with the approval of the School of Engineering.

Core program courses [EBE5003](#), [ENG5105](#), [EBE6002](#), [EBE6411](#) and [EBE6412](#) constitute 5 mandatory units of masters level research (and innovation) content in this MENS program, for possible articulation into Higher Degree Research PhD programs after graduation.

## Structural Engineering specialisation recommended enrolment pattern

Specialisation: Structural Engineering (Specialisation Study Code: 16222)							
Course	Year of program and semester in which course is normally studied						Enrolment requirements
	On-campus (ONC)		External (EXT)		Online (ONL)		
	Year	Sem	Year	Sem	Year	Sem	
<b>Schedule A: Program Core Courses</b> <i>Students must complete all six courses listed in this schedule</i>							
<b>International Entry Students Only</b>							
<a href="#">ENG5002 Professional Skills for Australian Engineering Workplace</a> <sup>^^</sup>	1	1,2					
<b>Domestic Entry Students Only</b>							
<a href="#">ENG5001 Professional Skills in Engineering</a> <sup>†</sup>	1	1,2,3			1	1,2,3	
<b>All students to complete</b>							
<a href="#">EBE5003 Research Training</a>	1	1,2			1	1,2	Pre-requisite: ( <a href="#">ENG5001</a> or <a href="#">ENG5002</a> ) and Students must be enrolled in one of the following Programs: MENS or GDNS or GCNS Pre-requisite or Co-requisite: <a href="#">ENG5105</a>
<a href="#">ENG5105 Advanced Numerical Modelling</a>	1	2			1	2	Pre-requisite: Students must be enrolled in one of the following Programs: GCNS or GDNS or MENS or MEPR
<a href="#">EBE6002 Advanced System Design and Innovation</a> <sup>^*</sup>	2						
<a href="#">EBE6411 Masters Research Project Part 1</a> <sup>*</sup>	2						
<a href="#">EBE6412 Masters Research Project Part 2</a> <sup>*</sup>	2						
<b>Schedule B: Structural Engineering Specialisation Core Courses</b> <i>Students must complete all six courses listed in this schedule</i>							
<a href="#">CIV4505 Structural Analysis</a>	1	1			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>	1	1			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="#">CIV4508 Structural Design II</a>	1	1			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
<a href="#">CIV8801 Code-Based Structural Design</a>						1	
<a href="#">CIV6802 Advanced Prestressed Concrete</a> <sup>\$</sup>					2	2	
<a href="#">CIV6803 Advanced Mechanics and Technology of Fibre Composites</a>					2	1	Pre-requisite: CIV3506 or <a href="#">MEC3203</a> or Students must be enrolled in one of the following Programs: PGCN or MEPR or GCNS or GDNS or MENS
<b>Schedule C: Structural Engineering Specialisation Selective Courses</b> (4 unit load required)							
<b>Advanced Management Courses – mandatory to choose one of each paired option listed (2 units)</b>							
<b>Course A = Mandatory Choose 1</b>							
<a href="#">ENG6208 Advanced Engineering Project Management</a>	1,2	1			1,2	1	

Specialisation: Structural Engineering (Specialisation Study Code: 16222)							
Course	Year of program and semester in which course is normally studied						Enrolment requirements
	On-campus (ONC)		External (EXT)		Online (ONL)		
	Year	Sem	Year	Sem	Year	Sem	
OR							
ENG6205 Project Management Practice	1,2	2			1,2	2	
Course B = Mandatory Choose 1							
ENG6104 Asset Management in an Engineering Environment	1,2	1			1,2	1	
OR							
ENG6207 Innovation Management and New Product Development <sup>£</sup>					1,2	3	
Choose two from the following selectives (2 units)							
ENM2600 Advanced Engineering Mathematics <sup>§</sup>	1,2	1			1,2	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
STA6200 Statistics for Quantitative Researchers	1,2	1			1,2	1,2	Enrolment is not permitted in STA6200 if S TA2300 or STA1003 or STA1004 has been previously completed
GIS2407 Web Based Geographic Information System	1,2	2			1,2	2	Pre-requisite: GIS1402 or Students must be enrolled in one of the following Programs: GCST or GDST or MSST or MSPT or GCNS or GDNS or MENS
CIV5403 Advanced Geotechnical Engineering	1	2			1	2	Pre-requisite: CIV2401 or CIV2403 or Students must be enrolled in one of the following Programs: GCEN or METC or MEPR or GCNS or GDNS or MENS
MEC4302 Computational Mechanics in Design	1,2	1			1,2	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

#### Footnotes

^^ Mandatory on-campus residential school

† Unavailable in S3 2023

^ Mandatory group capstone practical

\* First Offer in 2024 academic year

\$ This course is only offered in odd years

£ 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

#### Notes:

Consult the School of Engineering Program Director via [usq.support@usq.edu.au](mailto:usq.support@usq.edu.au) to seek any non-standard enrolment approval.

Level 6 and/or level 8 courses from other areas of study may be chosen as approved courses with the approval of the School of Engineering.

Core program courses [EBE5003](#), [ENG5105](#), [EBE6002](#), [EBE6411](#) and [EBE6412](#) constitute 5 mandatory units of masters level research (and innovation) content in this MENS program, for possible articulation into Higher Degree Research PhD programs after graduation.