Master of Professional Engineering (MENS) - MProfEng
CRICOS code (International applicants): 067689G

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<thead>
<tr>
<th></th>
<th>On-campus</th>
<th>External</th>
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</thead>
<tbody>
<tr>
<td>Start:</td>
<td>Semester 1 (February)</td>
<td>Semester 1 (February)</td>
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<tr>
<td></td>
<td>Semester 2 (July)</td>
<td>Semester 2 (July)</td>
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<td>Semester 3 (November)</td>
<td>Semester 3 (November)</td>
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<tr>
<td>Campus:</td>
<td>Toowoomba</td>
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<tr>
<td>Fees:</td>
<td>Commonwealth supported place</td>
<td>Commonwealth supported place</td>
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<td></td>
<td>Domestic full fee paying place</td>
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<td>International full fee paying place</td>
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<tr>
<td>Standard duration:</td>
<td>2 years full-time or 4 years part-time</td>
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<tr>
<td>Program articulation:</td>
<td>From: Graduate Certificate of Professional Engineering; Graduate Diploma of Professional Engineering</td>
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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
Ask a question
Freecall (within Australia): 1800 269 500
Phone (from outside Australia): +61 7 4631 5315
Email: studyeng@usq.edu.au

Future International students
Ask a question
Phone: +61 7 4631 5543
Email: international@usq.edu.au

Current students
Ask a question
Freecall (within Australia): 1800 007 252
Phone (from outside Australia): +61 7 4631 2285
Email: usq.support@usq.edu.au

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.

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 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** Students must complete all six courses listed in this schedule |
| **International Entry Students Only** |
| ENG5002 Professional Skills for Australian Engineering Workplace | 1 | 1,2 | |
| **Domestic Entry Students Only** |
| ENG5001 Professional Skills in Engineering | 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

CRICOS: QLD 00244B, NSW 02225M | TEQSA: PRV12081 © University of Southern Queensland
<table>
<thead>
<tr>
<th>Course</th>
<th>Year of program and semester in which course is normally studied</th>
<th>Enrolment requirements</th>
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<tbody>
<tr>
<td></td>
<td>On-campus (ONC)</td>
<td>External (EXT)</td>
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<tr>
<td></td>
<td>Year</td>
<td>Sem</td>
</tr>
<tr>
<td>ENG5105 Advanced Numerical Modelling</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>EBE6002 Advanced System Design and Innovation</td>
<td>2</td>
<td>Pre-requisite: Students must be enrolled in one of the following Programs: GCNS or GDNS or MENS or MEPR</td>
</tr>
<tr>
<td>EBE6411 Masters Research Project Part 1</td>
<td>2</td>
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<tr>
<td>EBE6412 Masters Research Project Part 2</td>
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</tbody>
</table>

**Schedule B: Aerospace Engineering Specialisation Core Courses Students must complete all six courses listed in this schedule**

**All students to complete**

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<tr>
<th>Course</th>
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<th>Sem</th>
<th>Year</th>
<th>Sem</th>
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</thead>
<tbody>
<tr>
<td>ENG5500 Advanced Aerospace Systems</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>Pre-requisite: Students must be enrolled in the following Program: MENS (Aerospace Engineering specialisation)</td>
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<tr>
<td>ENG6208 Advanced Engineering Project Management</td>
<td>1</td>
<td>1</td>
<td>1</td>
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</table>

**For students from undergraduate mechanical discipline strand for Aerodynamics and Propulsion Sub-specialisation (4 units)**

**International Entry Students only**

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<thead>
<tr>
<th>Course</th>
<th>Year</th>
<th>Sem</th>
<th>Year</th>
<th>Sem</th>
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<tbody>
<tr>
<td>MEC5107 Thermofluids</td>
<td>1,2</td>
<td>2</td>
<td>1,2</td>
<td>2</td>
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</table>

**Domestic Entry Students only**

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<tr>
<th>Course</th>
<th>Year</th>
<th>Sem</th>
<th>Year</th>
<th>Sem</th>
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<tbody>
<tr>
<td>MEC4108 Advanced Thermofluids</td>
<td>1,2</td>
<td>1</td>
<td>1,2</td>
<td>1</td>
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**All Aerodynamic & Propulsion Sub-specialisation Students to complete**

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<thead>
<tr>
<th>Course</th>
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<th>Sem</th>
<th>Year</th>
<th>Sem</th>
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<tbody>
<tr>
<td>MEC5100 Computational Fluid Dynamics</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>MEC5109 Aerospace Propulsion Systems</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>MEC6109 Advanced Gas Dynamics</td>
<td>2</td>
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</table>

**For undergraduates from mechanical/structural discipline strands entering Aerospace Transport Structures Sub-specialisation (4 units)**

<table>
<thead>
<tr>
<th>Course</th>
<th>Year</th>
<th>Sem</th>
<th>Year</th>
<th>Sem</th>
</tr>
</thead>
<tbody>
<tr>
<td>MEC4302 Computational Mechanics in Design</td>
<td>1,2</td>
<td>1</td>
<td>1,2</td>
<td>1</td>
</tr>
<tr>
<td>MEC5203 fibre Reinforced Composites</td>
<td>1,2</td>
<td>2</td>
<td>1,2</td>
<td>2</td>
</tr>
</tbody>
</table>

Pre-requisite: (MEC3107 or MEC3102 or MEC4108 or MEC5107 or ENV3104 or MEC5100 or ENV5104 or Students must be enrolled in one of the following Programs: GCENS or GDNS or MENS or MEPR if they have successfully completed, or are currently enrolled in, MEC4103.)

Pre-requisite: (MEC3107 or MEC3102 or MEC4108 or MEC5107 or ENM2600 or ENG3104 or Students must be enrolled in one of the following Programs: GCENS or GDNS or MENS.)

Pre-requisite: (MEC2304 and MEC2401 and MEC2402 or Students must be enrolled in one of the following Programs: GCENS or METC or MEPR or GDNS or GEPR Students cannot enrol in MEC4108 if they have successfully completed, or are currently enrolled in, MEC4103.)

Pre-requisite: (MEC1201 and (ENM2600 or MAT2100) or Students must be enrolled in one of the following Programs: GCENS or GDNS or MEPR or MENS.)
### Specialisation: Aerospace Engineering (Specialisation Study Code: TBA)

<table>
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<tr>
<th>Course</th>
<th>Year</th>
<th>Semester</th>
<th>On-campus (ONC)</th>
<th>External (EXT)</th>
<th>Online (ONL)</th>
<th>Enrolment requirements</th>
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</thead>
<tbody>
<tr>
<td>MEC6203 Advanced Materials Technology*</td>
<td>2</td>
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<td></td>
<td>Pre-requisite: ELE4605 or Students must be enrolled in one of the following Programs: MENS or MEPR or GCNS or GDNS</td>
</tr>
<tr>
<td>MEC6306 Advanced Aerospace Transport Structures*</td>
<td></td>
<td>2</td>
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<td></td>
<td>Pre-requisite: MEC2401 or ELE2103 or Students must be enrolled in one of the following Programs: MENS or MEPR or GCNS or GDNS</td>
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</tbody>
</table>

**For students from undergraduate Electrical and Electronic Strands entering Aerospace Electrical Engineering Sub-specialisation (4 units)**

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<tr>
<th>Course</th>
<th>Year</th>
<th>Semester</th>
<th>On-campus (ONC)</th>
<th>External (EXT)</th>
<th>Online (ONL)</th>
<th>Enrolment requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>MEC6203 Advanced Materials Technology*</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Pre-requisite: ELE4605 or Students must be enrolled in one of the following Programs: MENS or MEPR or GCNS or GDNS</td>
</tr>
<tr>
<td>ELE5605 Electro-Magnetic Modelling</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2,3</td>
<td></td>
<td>Pre-requisite: ELE4605 or Students must be enrolled in one of the following Programs: MENS or MEPR or GCNS or GDNS</td>
</tr>
<tr>
<td>ELE6005 Electronic Systems Integration</td>
<td>2</td>
<td></td>
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<td></td>
<td>Pre-requisite: ELE4605 or Students must be enrolled in one of the following Programs: MENS or MEPR or GCNS or GDNS</td>
</tr>
<tr>
<td>ELE6006 Aerospace Communications, Data and Navigation*</td>
<td></td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td>Pre-requisite: ELE4605 or Students must be enrolled in one of the following Programs: MENS or MEPR or GCNS or GDNS</td>
</tr>
</tbody>
</table>

**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
  - 1,2
  - 1,2
  - 1

**OR**

- **ENG6205 Project Management Practice**
  - 1,2
  - 2
  - 1,2
  - 2

**OR**

- **ENG6207 Innovation Management and New Product Development**
  - 1,2
  - 3

### Mechanical Engineering Aerospace Sub-disciplines - choose three from the following (3 units)

<table>
<thead>
<tr>
<th>Course</th>
<th>Year</th>
<th>Semester</th>
<th>On-campus (ONC)</th>
<th>External (EXT)</th>
<th>Online (ONL)</th>
<th>Enrolment requirements</th>
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<tbody>
<tr>
<td>ENM2600 Advanced Engineering Mathematics §</td>
<td>1,2</td>
<td>1</td>
<td></td>
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<td></td>
<td>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</td>
</tr>
<tr>
<td>STA6200 Statistics for Quantitative Researchers</td>
<td>1,2</td>
<td>1</td>
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<td></td>
<td></td>
<td>Enrolment is not permitted in STA6200 if STA2300 or STA1003 or STA1004 has been previously completed</td>
</tr>
<tr>
<td>MEC5203 Fibre Reinforced Composites</td>
<td>1,2</td>
<td>2</td>
<td></td>
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<td>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</td>
</tr>
<tr>
<td>MEC4108 Advanced Thermofluids</td>
<td>1,2</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td>Pre-requisite: (MEC3107 &amp; ENM2600 &amp; ENG3104) or Students must be enrolled in one of the following Programs: GCNS or GDNS or MEPR or MENS</td>
</tr>
<tr>
<td>MEC6203 Advanced Materials Technology §</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Pre-requisite: MEC2401 or ELE2103 or Students must be enrolled in one of the following Programs: MENS or GCEN</td>
</tr>
<tr>
<td>MEC4406 Robotics and Machine Vision</td>
<td>1,2</td>
<td>2</td>
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<td>Pre-requisite: (MEC2101 or MEC3102) or Students must be enrolled in one of the following Programs: GCEN or</td>
</tr>
<tr>
<td>MEC4104 Renewable Energy Technology</td>
<td>2</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td>Pre-requisite: (MEC2101 or MEC3102) or Students must be enrolled in one of the following Programs: GCEN or</td>
</tr>
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</table>
Specialisation: Aerospace Engineering (Specialisation Study Code: TBA)

<table>
<thead>
<tr>
<th>Course</th>
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<th>Sem</th>
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<td>Year</td>
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<tr>
<td>GCNS or GDNS or METC or MENS or MEPR</td>
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<tr>
<td>MEC403 Advanced Dynamics</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>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</td>
</tr>
<tr>
<td>MEC510 Computational Fluid Dynamics</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td>Pre-requisite: MEC3107 or MEC3102 or MEC4108 or MEC5107 or ENV5104 or Students must be enrolled in one of the following Programs: MEPR or GCNS or GDNS or GEPR</td>
</tr>
<tr>
<td>MEC5105 Combustion</td>
<td>1, 2</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>Pre-requisite: MEC3107 or MEC3102 or MEC4108 or MEC5107 or Students must be enrolled in the following Program: MEPR</td>
</tr>
<tr>
<td>MEC5109 Aerospace Propulsion Systems</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>Pre-requisite: MEC3107 or MEC4108 or MEC5107</td>
</tr>
<tr>
<td>MEC6109 Advanced Gas Dynamics</td>
<td>2</td>
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<tr>
<td>MEC6306 Advanced Aerospace Transport Structures</td>
<td>2</td>
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Electrical Engineering Aerospace Sub-discipline - choose three from the following (3 units)

<table>
<thead>
<tr>
<th>Course</th>
<th>Year</th>
<th>Sem</th>
<th>External</th>
<th>Online</th>
<th>Enrolment requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Year</td>
<td>Sem</td>
<td>Year</td>
<td>Sem</td>
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<tr>
<td>ENM2600 Advanced Engineering Mathematics</td>
<td>1, 2</td>
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<td>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</td>
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<tr>
<td>STA6200 Statistics for Quantitative Researchers</td>
<td>1, 2</td>
<td>1</td>
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<td>Enrolment is not permitted in STA6200 if STA2300 or STA1003 or STA1004 has been previously completed</td>
</tr>
<tr>
<td>ELE4605 Fields and Waves</td>
<td>1, 2</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>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</td>
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<tr>
<td>ELE4606 Communication Systems</td>
<td>1, 2</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>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</td>
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<tr>
<td>MEC4104 Renewable Energy Technology</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>Pre-requisite: (MEC2101 and MEC3102) or MEC2106 or Students must be enrolled in one of the following Programs: GCEN or GDNS or MENS or MEPR</td>
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<tr>
<td>ELE4307 Real Time Systems</td>
<td>1</td>
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<td>Pre-requisite: ELE1301 or Students must be enrolled in one of the following Programs: GCNS or GDNS or MENS or MEPR</td>
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<tr>
<td>ELE4109 Measurement Science and Instrument Engineering</td>
<td>1, 2</td>
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<tr>
<td>MEC406 Robotics and Machine Vision</td>
<td>1, 2</td>
<td>2</td>
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<td>2</td>
<td>Pre-requisite: MEC2401 or ELE2103 or Students must be enrolled in one of the following Programs: MENS or GCEN</td>
</tr>
</tbody>
</table>

Footnotes:
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### Agricultural Engineering specialisation recommended enrolment pattern

<table>
<thead>
<tr>
<th>Specialisation: Agricultural Engineering (Specialisation Study Code: 16215)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Course</strong></td>
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</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Schedule A: Program Core Courses</td>
</tr>
<tr>
<td><strong>International Entry Students Only</strong></td>
</tr>
<tr>
<td>ENG5002 Professional Skills for Australian Engineering Workplace</td>
</tr>
<tr>
<td><strong>Domestic Entry Students Only</strong></td>
</tr>
<tr>
<td>ENG5001 Professional Skills in Engineering†</td>
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<tr>
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<tr>
<td>ENG5105 Advanced Numerical Modelling</td>
</tr>
<tr>
<td>EBE6002 Advanced System Design and Innovation*</td>
</tr>
<tr>
<td>EBE6411 Masters Research Project Part 1*</td>
</tr>
<tr>
<td>EBE6412 Masters Research Project Part 2*</td>
</tr>
<tr>
<td>Schedule B: Agricultural Engineering Specialisation Core Courses</td>
</tr>
<tr>
<td>ENV4106 Irrigation Science</td>
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<tr>
<td>ENV4107 Water Resources Engineering</td>
</tr>
<tr>
<td>AGR4305 Agricultural Soil Mechanics</td>
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<tr>
<td>ENV5104 Advanced Hydraulic Systems</td>
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<tr>
<td>AGR6002 Emerging Technologies in Agriculture*</td>
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<td>AGR6305 Applications of Advanced Technology in Agriculture</td>
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<td>Schedule C: Agricultural Engineering Specialisation Selective Courses</td>
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<tr>
<td>Advanced Management Courses – mandatory to choose one of each paired option listed (2 units)</td>
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<tr>
<td>Course A = Mandatory Choose 1</td>
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<tr>
<td>ENG6208 Advanced Engineering Project Management</td>
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</table>
### Specialisation: Agricultural Engineering (Specialisation Study Code: 16215)

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<td>Sem</td>
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<td></td>
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</table>

**OR**

**Course B = Mandatory Choose 1**

<table>
<thead>
<tr>
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<tr>
<td></td>
<td>Year</td>
<td>Sem</td>
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<tr>
<td>ENG6104 Asset Management in an Engineering Environment</td>
<td>1,2</td>
<td>1</td>
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</table>

**OR**

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<tr>
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<tr>
<td></td>
<td>Year</td>
<td>Sem</td>
</tr>
<tr>
<td>ENG6207 Innovation Management and New Product Development£</td>
<td>1,2</td>
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</table>

Choose two from the following selectives (2 units)

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<tr>
<td>ENM2600 Advanced Engineering Mathematics§</td>
<td>1,2</td>
<td>1</td>
</tr>
<tr>
<td>STA6200 Statistics for Quantitative Researchers</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>CLI8003 Climate, Food, Water and Energy Security</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>MEC4108 Advanced Thermofluids</td>
<td>1,2</td>
<td>1</td>
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<tr>
<td>ENV4203 Public Health Engineering</td>
<td>1,2</td>
<td>2</td>
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<tr>
<td>ENV4204 Environmental Technology</td>
<td>1,2</td>
<td>1</td>
</tr>
<tr>
<td>MEC4406 Robotics and Machine Vision</td>
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<td>2</td>
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<tr>
<td>MEC5100 Computational Fluid Dynamics</td>
<td>2</td>
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</tbody>
</table>

**Footnotes**

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- ^ Mandatory group capstone practical
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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.

CRICOS: QLD 00244B, NSW 02225M | TEQSA: PRV12081 This version produced 14 Sep 2023. © University of Southern Queensland
Civil Engineering specialisation recommended enrolment pattern

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</tr>
<tr>
<td></td>
<td>On-campus (ONC)</td>
<td>External (EXT)</td>
</tr>
</tbody>
</table>

### Schedule A: Program Core Courses

Students must complete all six courses listed in this schedule

#### International Entry Students Only

- ENG5002 Professional Skills for Australian Engineering Workplace
  - 1, 2

#### Domestic Entry Students Only

- ENG5001 Professional Skills in Engineering
  - 1, 2, 3
  - 1, 2, 3

All students to complete

- EBE5003 Research Training
  - 1, 2

- EBE5105 Advanced Numerical Modelling
  - 1, 2
  - Pre-requisite: (ENG5001 or ENG5002) Students must be enrolled in one of the following Programs: MENS or GDNS or GCNS
  - Pre-requisite or Co-requisite: ENG5105

- EBE6002 Advanced System Design and Innovation
  - 2

- EBE6411 Masters Research Project Part 1
  - 2

- EBE6412 Masters Research Project Part 2
  - 2

### Schedule B: Civil Engineering Specialisation Core Courses

Students must complete all six courses listed in this schedule

- CIV4505 Structural Analysis
  - 1

- CIV4508 Structural Design II
  - 1

- ENV4203 Public Health Engineering
  - 1

- CIV5403 Advanced Geotechnical Engineering
  - 1, 2

- ENV5104 Advanced Hydraulic Systems
  - 1, 2

- CIV5704 Road and Street Engineering
  - 2
### Specialisation: Civil Engineering (Specialisation Study Code: 16216)

<table>
<thead>
<tr>
<th>Course</th>
<th>Year of program and semester in which course is normally studied</th>
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<tbody>
<tr>
<td></td>
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<tr>
<td></td>
<td>Year</td>
<td>Sem</td>
</tr>
</tbody>
</table>

### 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**

- **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**
  
  1,2 3

#### Choose two from the following selectives (2 units)

- **ENM2600 Advanced Engineering Mathematics**
  
  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 2

  *Enrolment is not permitted in STA6200 if STA2300 or STA1003 or STA1004 has been previously completed

- **CIV6802 Advanced Prestressed Concrete**
  
  2 2

  *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

- **ENV4205 Water and Wastewater Treatment**
  
  1 1

  *Pre-requisite: ENM1600 or Students must be enrolled in one of the following Programs: GCEN or METC or MEPR or GCNS or GDNS or MENS

- **CIV4506 Concrete Structures**
  
  1,2 1 1,2 1

  *Pre-requisite: CIV2503 or Students must be enrolled in one of the following Programs: GCEN or METC or MEPR or GCNS or GDNS or MENS

- **CIV5705 Pavement Design and Analysis**
  
  1,2 1

  *Pre-requisite: CIV3703 or Students must be enrolled in one of the following Programs: GCNS or GDNS or MENS or PGCN or GCAE or MEPR

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### Notes:

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## Electrical and Electronic Engineering specialisation recommended enrolment pattern

**Specialisation: Electrical and Electronic Engineering (Specialisation Study Code: 16217)**

<table>
<thead>
<tr>
<th>Course</th>
<th>Year</th>
<th>Sem</th>
<th>Year</th>
<th>Sem</th>
<th>Year</th>
<th>Sem</th>
<th>Enrolment requirements</th>
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<tbody>
<tr>
<td><strong>Course</strong></td>
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<td><strong>EXT</strong></td>
<td><strong>ONL</strong></td>
<td><strong>Sem</strong></td>
<td><strong>Sem</strong></td>
<td><strong>Sem</strong></td>
<td><strong>Pre-requisite</strong>: (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</td>
</tr>
<tr>
<td><strong>Schedule A: Program Core Courses</strong></td>
<td><strong>International Entry Students Only</strong></td>
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<tr>
<td>ENG5002 Professional Skills for Australian Engineering Workplace</td>
<td>1</td>
<td>1</td>
<td>2</td>
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<tr>
<td><strong>Domestic Entry Students Only</strong></td>
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<tr>
<td>ENG5001 Professional Skills in Engineering†</td>
<td>1</td>
<td>1</td>
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<td>1</td>
<td>1</td>
<td>1</td>
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<tr>
<td>EBE5003 Research Training</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>Pre-requisite: (MAT1502 or ENM1600) and ELE2103 and ELE2601 or Students must be enrolled in one of the following Programs: MENS or GDNS or GCNS Pre-requisite or Co-requisite: ENG5105</td>
</tr>
<tr>
<td>ENG5105 Advanced Numerical Modelling</td>
<td>1</td>
<td>2</td>
<td></td>
<td>1</td>
<td>2</td>
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<td>Pre-requisite: Students must be enrolled in one of the following Programs: GCNS or GDNS or MENS or MEPR</td>
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<tr>
<td>EBE6002 Advanced System Design and Innovation**</td>
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<tr>
<td>EBE6411 Masters Research Project Part 1 *</td>
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<tr>
<td>EBE6412 Masters Research Project Part 2</td>
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<tr>
<td><strong>Schedule C: Electrical and Electronic Engineering Specialisation Selective Courses</strong></td>
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<tr>
<td>ELE4605 Fields and Waves</td>
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<td>1</td>
<td>1</td>
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<td></td>
<td>Pre-requisite: (MAT1502 or ENM1600) and ELE2103 and ELE2601 or Students must be enrolled in one of the following Programs: MENS or GDNS or GCNS Pre-requisite or Co-requisite: ENG5105</td>
</tr>
<tr>
<td>ELE4606 Communication Systems</td>
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<td></td>
<td>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</td>
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<tr>
<td>ELE4807 Power Systems Analysis</td>
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<td>ELE5001 Industrial Communications Protocols</td>
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<td>1</td>
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<td>Pre-requisite: ELE2601 or Students must be enrolled in the following Program: GCNS, GDNS, MENS or MEPR</td>
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<tr>
<td>ELE5605 Electro-Magnetic Modelling</td>
<td>1</td>
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<td>Pre-requisite: ELE4605 or Students must be enrolled in one of the following Programs: MENS or MEPR or GCNS or GDNS</td>
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<tr>
<td>ELE6005 Electronic Systems Integration *</td>
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</tbody>
</table>

**Course A = Mandatory Choose 1**

| ENG6208 Advanced Engineering Project Management    | 1 | 2 | 1 | 1 | | | |
| **OR**                                            | | | | | | | |
| ENG6205 Project Management Practice                | 1 | 2 | 2 | | | |
**Specialisation: Electrical and Electronic Engineering (Specialisation Study Code: 16217)**

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<td></td>
<td>Year</td>
<td>Sem</td>
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</table>

**Course B = Mandatory Choose 1**

- **ENG6104 Asset Management in an Engineering Environment**
  - Year: 1, 2
  - Sem: 1
  - Online (ONL): 1

  **OR**

- **ENG6207 Innovation Management and New Product Development**
  - Year: 1, 2
  - Sem: 3

**Choose two from the following selectives (2 units)**

- **ENM2600 Advanced Engineering Mathematics**
  - Year: 1, 2
  - Sem: 1
  - Online (ONL): 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**
  - Year: 1, 2
  - Sem: 1
  - Online (ONL): 2

  **Enrolment is not permitted in STA6200 if STA2300 or STA1003 or STA1004 has been previously completed**

- **ELE4607 Advanced Digital Communications**
  - Year: 1, 2
  - Sem: 1
  - Online (ONL): 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**
  - Year: 1, 2
  - Sem: 2
  - Online (ONL): 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**
  - Year: 1, 2
  - Sem: 1

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**Engineering Management and Enterprise specialisation recommended enrolment pattern**

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**Schedule A: Program Core Courses Students must complete all six courses listed in this schedule**

**International Entry Students Only**

- **ENSG02 Professional Skills for Australian Engineering Workplace**
  - Year: 1
  - Sem: 2

This version produced 14 Sep 2023.
## Specialisation: Engineering Management and Enterprise (Specialisation Study Code: 16289)

### Enrolment requirements

<table>
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</table>

### Domestic Entry Students Only

**ENG5001 Professional Skills in Engineering**

- Pre-requisite: (ENG5001 or ENG5002) and Students must be enrolled in one of the following Programs: MENS or GDNS or GCNS

### All students to complete

**EBE5003 Research Training**

- Pre-requisite: ENG5105
- Pre-requisite or Co-requisite: ENG5105

**ENG5105 Advanced Numerical Modelling**

- 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**

**EBE6411 Masters Research Project Part 1**

**EBE6412 Masters Research Project Part 2**

### Schedule B: Engineering Management and Enterprise Specialisation Core Courses

**Students must complete all six courses listed in this schedule**

**ENG6104 Asset Management in an Engineering Environment**

**ENG6205 Project Management Practice**

**ENG6207 Innovation Management and New Product Development**

**FIN8201 Corporate Finance**

**GIS2407 Web Based Geographic Information System**

**MGT8049 Building an Engaged Workforce**

### 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**

**MGT8074 Project Team Leadership**

**MGT8040 Entrepreneurship, Innovation and Creativity**

**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

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

CRICOS: QLD 00244B, NSW 02225M | TEQSA: PRV12081
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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 to seek any non-standard enrolment approval.
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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 | Sem | On-campus (ONC) | External (EXT) | Online (ONL) |
| Enrolment requirements                      | Year | Sem |

**Schedule A: Program Core Courses** Students must complete all six courses listed in this schedule

**International Entry Students Only**

ENG5002 Professional Skills for Australian Engineering Workplace**  

**Domestic Entry Students Only**

ENG5001 Professional Skills in Engineering†  

All students to complete

EBE5003 Research Training  

ENG5105 Advanced Numerical Modelling  

EBE6002 Advanced System Design and Innovation**  

EBE6411 Masters Research Project Part 1  

EBE6412 Masters Research Project Part 2

**Schedule B: Environmental Engineering Specialisation Core Courses** Students must complete all six courses listed in this schedule

ENV4107 Water Resources Engineering  

ENV4203 Public Health Engineering  

ENV4204 Environmental Technology  

ENV4205 Water and Wastewater Treatment  

ENV5104 Advanced Hydraulic Systems  

ENV6103 Advanced Environmental Modelling*  

This version produced 14 Sep 2023. CRICOS: QLD 00244B, NSW 02225M | TEQSA: PRV12081 © University of Southern Queensland 16
**Specialisation: Environmental Engineering (Specialisation Study Code: 16218)**

<table>
<thead>
<tr>
<th>Course</th>
<th>Year</th>
<th>Sem</th>
<th>On-campus (ONC)</th>
<th>External (EXT)</th>
<th>Online (ONL)</th>
<th>Enrolment requirements</th>
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<tbody>
<tr>
<td></td>
<td>Year</td>
<td>Sem</td>
<td>Online (ONL)</td>
<td>Online (ONL)</td>
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</tbody>
</table>

**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**
  - 1,2 3

**Choose two from the following selectives (2 units)**

- **ENM2600 Advanced Engineering Mathematics**
  - 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 2
  - Enrolment is not permitted in STA6200 if STA2300 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:**

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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.

---

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# Mechanical Engineering specialisation recommended enrolment pattern

**Specialisation: Mechanical Engineering (Specialisation Study Code: 16220)**

<table>
<thead>
<tr>
<th>Course</th>
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<th>Enrolment requirements</th>
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<tr>
<td></td>
<td>On-campus (ONC)</td>
<td>External (EXT)</td>
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<tr>
<td></td>
<td>Year</td>
<td>Sem</td>
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</tbody>
</table>

## Schedule A: Program Core Courses
Students must complete all six courses listed in this schedule

### International Entry Students Only

<table>
<thead>
<tr>
<th>Course</th>
<th>Year</th>
<th>Sem</th>
<th>Year</th>
<th>Sem</th>
<th>Year</th>
<th>Sem</th>
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<tr>
<td>ENG5002 Professional Skills for Australian Engineering Workplace</td>
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### Domestic Entry Students Only

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<th>Sem</th>
<th>Year</th>
<th>Sem</th>
<th>Year</th>
<th>Sem</th>
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<tbody>
<tr>
<td>ENG5001 Professional Skills in Engineering†</td>
<td>1</td>
<td>1,2,3</td>
<td>1</td>
<td>1,2,3</td>
<td></td>
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</tr>
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</table>

All students to complete

- EBE5003 Research Training
- ENG5105 Advanced Numerical Modelling
- EBE6002 Advanced System Design and Innovation
- EBE6411 Masters Research Project Part 1
- EBE6412 Masters Research Project Part 2

## Schedule B: Mechanical Engineering Specialisation Core Courses
Students must complete all six courses listed in this schedule

### International Entry Students Only

<table>
<thead>
<tr>
<th>Course</th>
<th>Year</th>
<th>Sem</th>
<th>Year</th>
<th>Sem</th>
<th>Year</th>
<th>Sem</th>
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<tbody>
<tr>
<td>MEC5107 Thermofluids</td>
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<td>1,2</td>
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### Domestic Entry Students Only

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<th>Year</th>
<th>Sem</th>
<th>Year</th>
<th>Sem</th>
<th>Year</th>
<th>Sem</th>
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<tbody>
<tr>
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<td>1</td>
<td>1,2</td>
<td>1</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

All Students to complete

- MEC4104 Renewable Energy Technology
- MEC4403 Advanced Dynamics
- MEC4302 Computational Mechanics in Design

[Consult the Handbook on the Web at https://www.unisq.edu.au/handbook/current for any updates that may occur during the year.]

Master of Professional Engineering (MENS) - MProfEng (2023)
<table>
<thead>
<tr>
<th>Course</th>
<th>Year</th>
<th>Sem</th>
<th>Year</th>
<th>Sem</th>
<th>Year</th>
<th>Sem</th>
<th>Enrolment requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>MEC5203 Fibre Reinforced Composites</td>
<td>1,2</td>
<td>2</td>
<td>1,2</td>
<td>2</td>
<td></td>
<td></td>
<td>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</td>
</tr>
<tr>
<td>MEC6203 Advanced Materials Technology*</td>
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</tr>
</tbody>
</table>

Schedule C: Mechanical 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   |      |     | 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 |

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£ | 1,2  | 3   |      |     |      |     |                                                                                         |

Choose two from the following selectives (2 units)

ENM2600 Advanced Engineering Mathematics§ | 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  | 2   |      |     | Enrolment is not permitted in STA6200 if STA2300 or STA1003 or STA1004 has been previously completed |

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 |

MEC5105 Combustion§ | 2    | 2   |      |     |      |     | Pre-requisite: MEC3107 or MEC3102 or MEC4108 or MEC5107 or Students must be enrolled in the following Program: MEPR |

MEC5109 Aerospace Propulsion Systems | 2    | 2   |      |     |      |     | Pre-requisite: MEC3107 or MEC4108 or MEC5107 or Students must be enrolled in the following Program: MEPR |

MEC6109 Advanced Gas Dynamics* | 2    |     |      |     |      |     |                                                                                         |

MEC6306 Advanced Aerospace Transport Structures* | 2    |     |      |     |      |     |                                                                                         |

Footnotes

AA 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
Consult the Handbook on the Web at https://www.unisq.edu.au/handbook/current for any updates that may occur during the year.
Master of Professional Engineering (MENS) - MProfEng (2023)

§Unavailable online in S3 2023
§This course is only offered in odd years

Notes:
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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

<table>
<thead>
<tr>
<th>Specialisation: Power Engineering (Specialisation Study Code: 16221)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Course</strong></td>
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<tr>
<td></td>
</tr>
<tr>
<td><strong>Schedule A: Program Core Courses</strong> Students must complete all six courses listed in this schedule</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td><strong>International Entry Students Only</strong></td>
</tr>
<tr>
<td>ENG5002 Professional Skills for Australian Engineering Workplace</td>
</tr>
<tr>
<td><strong>Domestic Entry Students Only</strong></td>
</tr>
<tr>
<td>ENG5001 Professional Skills in Engineering†</td>
</tr>
</tbody>
</table>

All students to complete

| EBE5003 Research Training | 1, 2 |
| ENG5105 Advanced Numerical Modelling | 1, 2 |
| EBE6002 Advanced System Design and Innovation* | 2 |
| EBE6411 Masters Research Project Part 1* | 2 |
| EBE6412 Masters Research Project Part 2* | 2 |

**Schedule B: Power Engineering Specialisation Core Courses** Students must complete all six courses listed in this schedule

| ELE4804 Power Systems Protection | 1, 1 |
| ELE4807 Power Systems Analysis | 1, 1 |
| ELE4307 Real Time Systems | 1, 2 |
| ELE4708 Electricity Supply Systems and Operations | 2, 2 |
| ELE5805 Power Electronics and Drive Systems | 2, 2 |
| ELE6804 Advances in Power Engineering* | 2, 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
Pre-requisite: Students must be enrolled in one of the following Programs: GCNS or GDNS or MENS or MEPR
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
Pre-requisite: ELE1301 or Students must be enrolled in one of the following Programs: GCNS or GDNS or MENS or MEPR
Pre-requisite: Students must be enrolled in one of the following Programs: GCNS or GDNS or MENS or MEPR
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

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### 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**

- **ENG6208 Advanced Engineering Project Management**
  - Year: 1, 2
  - Semester: 1, 2

  - **ONL**: Year 1, Semester 1, 2
  - **EXT**: Year 2, Semester 1, 2

- **ENG6205 Project Management Practice**
  - Year: 1, 2
  - Semester: 1, 2

  - **ONL**: Year 1, Semester 1, 2
  - **EXT**: Year 2, Semester 1, 2

**Course B = Mandatory Choose 1**

- **ENG6104 Asset Management in an Engineering Environment**
  - Year: 1, 2
  - Semester: 1, 2

  - **ONL**: Year 1, Semester 1, 2
  - **EXT**: Year 2, Semester 1, 2

- **ENG6207 Innovation Management and New Product Development**
  - Year: 1, 2
  - Semester: 1, 2, 3

Choose two from the following selectives (2 units)

- **ENM2600 Advanced Engineering Mathematics**
  - Year: 1, 2
  - Semester: 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**
  - Year: 1, 2
  - Semester: 1, 2, 2

  - **Enrolment is not permitted in STA6200 if STA2300 or STA1003 or STA1004 has been previously completed**

- **GIS2407 Web Based Geographic Information System**
  - Year: 1, 2
  - Semester: 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

- **ELE4506 Industrial Process Automation**
  - Year: 1, 2
  - Semester: 1, 2, 1

  - **Pre-requisite**: (ELE2101 or ELE2103) and ELE3105 and MEC2501 or Students must be enrolled in the following program: GCNS, GDNS, MENS or MEPR

- **MEC4104 Renewable Energy Technology**
  - Year: 2
  - Semester: 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

- **ELE5001 Industrial Communications Protocols**
  - Year: 2
  - Semester: 1, 2

  - **Pre-requisite**: ELE2601 or Students must be enrolled in the following Program: GCNS, GDNS, MENS or MEPR

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**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

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Structural Engineering specialisation recommended enrolment pattern

<table>
<thead>
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<th>Year of program and semester in which course is normally studied</th>
<th>Enrolment requirements</th>
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<tbody>
<tr>
<td></td>
<td>Online (ONL)</td>
<td>External (EXT)</td>
</tr>
<tr>
<td></td>
<td>Year</td>
<td>Sem</td>
</tr>
</tbody>
</table>

Schedule A: Program Core Courses
Students must complete all six courses listed in this schedule

International Entry Students Only

ENG5002 Professional Skills for Australian Engineering Workplace

Domestic Entry Students Only

ENG5001 Professional Skills in Engineering

All students to complete

EBE5003 Research Training

ENG5105 Advanced Numerical Modelling

EBE6002 Advanced System Design and Innovation

EBE6411 Masters Research Project Part 1

EBE6412 Masters Research Project Part 2

Schedule B: Structural Engineering Specialisation Core Courses
Students must complete all six courses listed in this schedule

CIV4505 Structural Analysis

CIV4506 Concrete Structures

CIV4508 Structural Design II

CIV8801 Code-Based Structural Design

Pre-requisite: MEC2402 and (MAT1502 or ENM1600 or MAT1102) or Students must be enrolled in one of the following Programs: GCEN or METC or MEPR or GCNS or GDNS or MENS

Pre-requisite: CIV2503 or Students must be enrolled in one of the following Programs: GCEN or METC or MEPR or GCNS or GDNS or MENS

Pre-requisite: (CIV3505 or CIV4505) and (CIV3506 or CIV4506) or Students must be enrolled in one of the following Programs: GCEN or METC or MEPR or GCNS or GDNS or MENS

Pre-requisite: CIV3506 or MEC3203 or Students must be enrolled in one of the following Programs: PGCN or MEPR or GCNS or GDNS or MENS

Pre-requisite: CIV3506 or MEC3203 or Students must be enrolled in one of the following Programs: PGCN or MEPR or GCNS or GDNS or MENS

Schedule C: Structural 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

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<table>
<thead>
<tr>
<th>Course</th>
<th>Year</th>
<th>Sem</th>
<th>Year</th>
<th>Sem</th>
<th>Year</th>
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<tr>
<td>OR</td>
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<tr>
<td>ENG6205 Project Management Practice</td>
<td>1,2</td>
<td>2</td>
<td>1,2</td>
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<tr>
<td>Course B = Mandatory Choose 1</td>
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<tr>
<td>ENG6104 Asset Management in an Engineering Environment</td>
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<td>1,2</td>
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<td>OR</td>
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<tr>
<td>ENG6207 Innovation Management and New Product Development</td>
<td>1,2</td>
<td>3</td>
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</tbody>
</table>

Choose two from the following selectives (2 units)

- **ENM2600 Advanced Engineering Mathematics** § 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 STA2300 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 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**

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