

Bachelor of Engineering (BENG) - BEng

QTAC code (Australian and New Zealand applicants): Toowoomba campus: 907332; External: 907335
Springfield campus: 927332

This program is only offered to continuing students. No new admissions will be accepted. Students who are interested in this study area should consider the [Bachelor of Engineering \(Honours\)](#) which will be offered from S1 2014.

| | On-campus | External |
|------------------------------|--|---|
| Start: | No new admissions | No new admissions |
| Campus: | Springfield, Toowoomba | |
| Fees: | 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 |
| Standard duration: | 4 years full-time, 8 years part-time or external | |
| Program articulation: | From: Associate Degree of Engineering ; Bachelor of Engineering Technology | |

Notes:

Please note that the Civil Engineering major is the only major that is available on-campus at Springfield.

Contact us

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| 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

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

The Bachelor of Engineering program is accredited by Engineers Australia and, through an agreement reached between the professional engineering bodies of other countries (the Washington Accord), is also recognised in the United Kingdom, the United States of America, Canada, Ireland, Hong Kong, New Zealand and South Africa.

Program aims

The Bachelor of Engineering provides students with the knowledge and skills that are necessary to commence practice as a professional engineer and to undertake further advanced level studies in engineering. Specifically the program provides students with a core of basic generic and technical skills, common to all branches of engineering, and then permits students to undertake an in depth study of either agricultural, civil, computer systems, electrical and electronic, environmental, instrumentation and control, mechanical, mechatronic, power engineering. In addition, students are equipped with a knowledge of the industrial and social environments in which they will function as professional engineers. The program also seeks to instill in students a capacity to communicate effectively and adapt to change.

The Bachelor of Engineering is primarily vocationally oriented. However, the program has been designed to identify students who have the capacity to undertake further study at an advanced level and to make an original contribution to engineering knowledge. These students are encouraged to undertake the course [ENG8001 Engineering Research Methods](#) as one of their Elective courses. This, and the two Research Project courses, will assist them in achieving these goals.

Program objectives

The objectives of this program are:

- to enable students to acquire, and demonstrate that they possess, the specified graduate attributes and capabilities
- to enable students to acquire in-depth technical competence in one of the following fields: Agricultural Engineering; Civil Engineering; Computer Systems Engineering; Electrical and Electronic Engineering; Environmental Engineering; Instrumentation and Control Engineering; Mechanical Engineering; Mechatronic Engineering; or Power Engineering.
- to enable students from diverse and non-traditional backgrounds and locations to enrol in the program and to provide them with opportunities to acquire the skills necessary to complete the program in the normal time
- to enable students to be empowered as learners through the provision of a wide range of teaching and learning styles and modes in their program
- to ensure that all students, regardless of the mode of study, have equality of opportunity in acquiring the specified graduate attributes and capabilities
- to ensure that graduates are eligible for graduate membership of Engineers Australia, and other appropriate professional bodies.

Admission requirements

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

- have studied four semester units and achieved an exit assessment of 'Sound Achievement' or better in each of the following Queensland Senior Secondary School subjects: English and Mathematics B. It is recommended that applicants should also have satisfactorily completed the subject: Physics

or

- be able to demonstrate that they have achieved an equivalent standard in these subjects at another institution

and

- **Australian applicants:** have achieved a Queensland Overall Position (OP) band, or an equivalent Rank based on qualifications and previous work experience, at or above the specified cut-off level

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.

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, via distance education/online. Students are able to calculate the fees for a particular course via the [Course Fee Schedules](#).

Program structure

The Bachelor of Engineering is a 32 unit program consisting of Academic courses and Practice courses.

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

Practice courses are zero unit courses and each involves approximately 50 hours of student work. The only grades available for a Practice Course are Pass (P) and Fail (F). A Practice Course is designed to enable students to acquire specific competencies associated with their major study. These competencies range from specific practical and communication skills through to generic competencies relating to ethical and social responsibility, awareness of the environment, teamwork, etc. For an external student a Practice Course generally involves attendance on-campus for a one-week [residential school](#).

The components of the program are shown in the following table:

| Program Component | Academic Courses | | Practice Courses | |
|-------------------|-------------------|-------|------------------------------|-------|
| | Number of Courses | Units | Number of Courses | Units |
| Core Studies | 12 | 12 | 3 | 0 |
| Major Study | 20 | 20 | 3-5 depending upon the major | 0 |
| Total | 32 | 32 | 3-8 | 0 |

Program completion requirements

The Bachelor of Engineering involves either four years of full-time study or eight years of part-time study. To be eligible for the award students must complete the program within a maximum period of six years full-time study or 10 years part-time study from the date of their initial enrolment. Some courses in the Agricultural Engineering major are not yet available in external mode. In that case, students may need to spend up to two terms full-time on-campus to complete those courses. The Instrumentation and Control Engineering major is designed for process technologists in industry who wish to upgrade their qualifications. As such, the program will normally be undertaken by external study. Students who undertake the program by a combination of external and full-time study must complete their studies within nine years from the date of their initial enrolment to be eligible for the award.

These modes are available in each major shown in the following table.

| Major | On-Campus | External |
|--------------------------|-----------|----------|
| Agricultural Engineering | Yes | Yes |
| Civil Engineering | Yes | Yes |

| | | |
|---|-----|-----|
| Computer Systems Engineering | Yes | Yes |
| Electrical and Electronic Engineering | Yes | Yes |
| Environmental Engineering | Yes | Yes |
| Instrumentation and Control Engineering | | Yes |
| Mechanical Engineering | Yes | Yes |
| Mechatronic Engineering | Yes | Yes |
| Power Engineering | Yes | Yes |

Required time limits

Full-time students have a maximum of six years to complete this program. Part-time students have a maximum of 10 years to complete this program.

A pro-rata adjustment of the maximum time period will apply for those students who transfer from one mode of study to another. A pro-rata reduction in the maximum time period will apply to students who are admitted to a program with advanced standing.

Core courses

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

| Courses | Units |
|--|-------|
| Academic Courses | |
| ENG1002 Introduction to Engineering and Built Environment Applications | 1 |
| ENG1101 | 1 |
| ENG1100 Introduction to Engineering Design | 1 |
| ENG2002 Technology, Sustainability and Society | 1 |
| ENG2102 | 1 |
| ENG3104 Engineering Simulations and Computations | 1 |
| ENG4110 Engineering Research Methodology | 1 |
| ENG3003 Engineering Management | 1 |
| ENG4111 Research Project Part 1 | 1 |
| ENG4112 Research Project Part 2 | 1 |
| ENM1600 Engineering Mathematics | 1 |
| ENM2600 Advanced Engineering Mathematics | 1 |
| Elective (Select from the Electives list) | 1 |
| Practice Courses | |
| ENG1901 Engineering Practice 1 | 0 |
| ENG3902 Professional Practice 1 | 0 |
| ENG4903 Professional Practice 2 | 0 |
| ENG4909 Work Experience - Professional | 0 |

Major studies

The Bachelor of Engineering consists of a core component and a series of major studies. All students must complete the core courses and one of the major studies. The major study provides students with knowledge and skills in a specific discipline. The major study areas in the USQ Bachelor of Engineering are:

- Agricultural Engineering
- Civil Engineering
- Computer Systems Engineering
- Electrical and Electronic Engineering

- Environmental Engineering
- Instrumentation and Control Engineering
- Mechanical Engineering
- Mechatronic Engineering
- Power Engineering

Electives/Approved courses

In the Bachelor of Engineering, students are not required to undertake the Elective courses until the third and fourth levels of the program. This enables students enrolled in the second level of the program to discuss their choice of Electives with their Faculty. The most popular choices of courses for Electives may thus be timetabled to allow students to attend in their third and fourth years of study. Appropriate Electives are shown in the tables in the Recommended Enrolment Pattern section. Students may undertake only one appropriate level five or level eight course from the Bachelor of Engineering or another Engineering and Built Environment program as an Elective with the approval of the Faculty of Health, Engineering and Sciences. The Faculty may approve a variation in Elective studies where the student can demonstrate that there is a sound academic argument for the change. Arguments based on timetable difficulties, quota problems etc. will not normally be entertained. Note however that students who wish to enrol in courses other than those listed must obtain the written approval from the Faculty of Health, Engineering and Sciences prior to enrolling in the course if they want the course to count as credit towards their award.

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

Practical experience

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

IT requirements

Access to an up-to-date computer is necessary. On-campus students can access appropriately equipped laboratories, but should consider acquisition of their own computer. External students should be able to access a computer with the following [minimum standards](#) as advised by the University. All students should have access to email and the Internet via a computer running the latest versions of Internet web browsers such as Internet Explorer or Firefox. The University has a wireless network for on-campus students' computers. In order to take advantage of this facility and further enhance their on-campus learning environment, students should consider purchasing a notebook/laptop computer with wireless connectivity. A notebook/laptop may be required for some courses.

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 enrolled in the external offer of a Practice Course **must attend** the residential school for that course. In some cases students enrolled in the on-campus mode may also be required to attend the residential school. Students should only enrol in a Practice Course when they are able to attend the residential school for that course. Practice courses **may not** be taken earlier than shown except with the permission of the Faculty of Health, Engineering and Sciences. In some cases students may enrol in two Practice courses in one term so they can complete the two residential schools in a two-week period. The actual dates for each residential school are shown in the [Residential School schedule](#) in this Handbook.

Safety boots are compulsory in engineering laboratories for several of the Practice courses and are strongly recommended for all other Practice courses.

Practice courses

The majority of the practical and professional experience requirements for the program are contained within the major recommended enrolment pattern in the following table. These are zero unit courses, which are a **compulsory part** of the program, however they do not attract a student contribution charge for Australian Residents or a tuition fee for international students.

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

Elective courses

Elective courses are included in the list of Academic courses. Students should select these courses from the Electives listing.

Related programs

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

- [Bachelor of Engineering Bachelor of Business](#)
- .
- .

Exit points

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

Honours

The Bachelor of Engineering may be awarded with Honours. The class of honours to be awarded to a student is dependant upon:

- the Grade Point Average calculated from the grades achieved in the courses studied in, or transferred to, the program;
- the grade achieved by the student in the courses [ENG4111 Research Project Part 1](#) and [ENG4112 Research Project Part 2](#) (unless the student is exempted from these courses).

The minimum levels of achievement normally required for each class of honours are shown in the following table. To be assured of achieving a particular class of honours students must have achieved the specified grade in the research project courses and the minimum GPA requirements for all of the courses studied, for the last 16 courses studied, or for the last eight courses studied.

| Class of Honours | GPA Calculated from the Grades Achieved in: | | | Minimum Grade Achieved in Research Project Courses |
|------------------------------------|---|-------------------------------|----------------------------------|--|
| | All Courses Studied in the Program | The Last 16 Courses Studied*# | The Last Eight Courses Studied*# | |
| First Class Honours | 6.0 | 6.2 | 6.5 | A |
| Second Class Honours - Division A | 5.5 | 5.7 | 5.9 | B |
| Second Class Honours - Division B | 5.0 | 5.1 | 5.3 | C |
| Minimum number of courses required | 20 | 16 | 8 | |

Footnotes

* The results from courses [ENG4111](#) and [ENG4112](#) must be included (unless the student is exempted from these courses).

The best results in a semester are to be used when not all of the results from a semester are required.

Other information

[ENG1901 Engineering Practice 1](#) is the first in a series of **Practice courses** designed to enable students to acquire engineering and professional practice skills, including practical and teamwork skills, problem solving and engineering judgement. It is designed principally to cater for the needs of recent school leavers and those lacking any significant experience of the engineering workforce. **Students who have a trade certificate and who have been employed in the engineering industry for some time may be able to claim exemption from the course.**

Agricultural Engineering Major recommended enrolment pattern

Students are able to enrol in any offered mode of a course (on-campus, external or online), regardless of the program mode of study they enrolled in.

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

The course [AGR2902 Field Practice](#) may involve overnight field trips for which each student will be responsible for their own accommodation costs. This course is not offered in the on-campus mode. On-campus students should enrol in the external mode.

| Major study: Agricultural Engineering (Major Study Code: 12013) | | | | | | | | | |
|--|--|-----|----------------|-------|--------------|-----|--------------------|------------------------|---|
| Course | Year of program and semester in which course is normally studied | | | | | | Residential school | Enrolment requirements | |
| | On-campus (ONC) | | External (EXT) | | Online (ONL) | | | | |
| | Year | Sem | Year | Sem | Year | Sem | | | |
| Academic Courses | | | | | | | | | |
| ENG1002 Introduction to Engineering and Built Environment Applications | 1 | 1,2 | 1 | 1,2 | | | | | |
| ENM1600 Engineering Mathematics | 1 | 1 | 1 | 1,2 | | | | | |
| ENG1100 Introduction to Engineering Design | 1 | 2 | 1 | 1,2 | | | | | |
| ENG1101 | 1 | 1 | 2 | 1,2 | | | | | |
| CIV1501 Engineering Statics | 1 | 2 | 1 | 2,3 | | | | | Pre-requisite: ENM1600 or (ENM1500 and CIV1500) or Students must be enrolled in one of the following Programs: MEPR or GCEN or GEPR |
| MEC1201 Engineering Materials | 1 | 1 | 2 | 1,2,3 | | | | | |
| ENG2102 | 1 | 2 | 2 | 2,3 | | | | | |

| Major study: Agricultural Engineering (Major Study Code: 12013) | | | | | | | | |
|--|--|-----|----------------|-------|--------------|-----|---|------------------------|
| Course | Year of program and semester in which course is normally studied | | | | | | Residential school | Enrolment requirements |
| | On-campus (ONC) | | External (EXT) | | Online (ONL) | | | |
| | Year | Sem | Year | Sem | Year | Sem | | |
| SVY1500 Spatial Science for Engineers | 1 | 2 | 2 | 2 | | | | |
| AGR2302 Agricultural Machinery | 2 | 1 | 3 | 1 | | | | |
| ENM2600 Advanced Engineering Mathematics | 2 | 1 | 3 | 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 | |
| ENV2103 Hydraulics I | 2 | 1 | 4 | 1 | | | Pre-requisite: CIV1500 or CIV1501 or Students must be enrolled in the following Program: GCEN or GEPR | |
| MEC2402 Stress Analysis | 2 | 1 | 4 | 1 | | | Pre-requisite: CIV1501 or Students must be enrolled in one of the following Programs: GCEN or METC or MEPR or GCNS or GDNS or MENS or GEPR | |
| ENG2002 Technology, Sustainability and Society | 2 | 2 | 3 | 1,2,3 | | | | |
| ENG3104 Engineering Simulations and Computations | 2 | 2 | 3 | 2 | | | Pre-requisite: (ENM2600 or MAT2100 or MAT2500) or Students must be enrolled in one of the following Programs: GDET or METC or GDNS or MENS | |
| Elective (Select from the Electives list) | 2 | 2 | 4 | 2 | | | | |
| CIV2403 Geology and Geomechanics | 2 | 2 | 4 | 2 | | | Pre-requisite: CIV1501 or CIV1500 or Students must be enrolled in one of the following Programs: MENS or GCEN or GEPR | |
| AGR3303 Agricultural Materials and Post-Harvest Technologies | 3 | 1 | 5 | 1 | | | | |
| AGR3304 Soil Science | 3 | 1 | 5 | 1 | | | | |
| ENV3104 Hydraulics II | 3 | 1 | 6 | 1 | | | Pre-requisite: ENV1101 or ENV2103 or Students must be enrolled in one of the following Programs: GCEN or METC or MEPR or GCNS or GDNS or MENS | |
| AGR3305 Precision and Smart Technologies in Agriculture | 3 | 1 | 6 | 1 | | | | |
| AGR2301 Agricultural Science | 3 | 2 | 5 | 2 | | | | |
| ENG4110 Engineering Research Methodology | 3 | 2 | 7 | 2 | | | | |
| MEC2401 Dynamics I | 3 | 2 | 5 | 2 | | | Pre-requisite: ((MAT1502 or MAT1102 or ENM1600) and CIV1501) or Students must be enrolled in one of the following Programs: GCEN or GCNS or METC or MEPR or MENS or GEPR | |
| ENV3105 Hydrology | 3 | 2 | 6 | 2 | | | | |
| ENV4106 Irrigation Science | 4 | 2 | 7 | 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. | |

| Major study: Agricultural Engineering (Major Study Code: 12013) | | | | | | | | |
|---|--|-----|----------------|-----|--------------|-----|--------------------|---|
| Course | Year of program and semester in which course is normally studied | | | | | | Residential school | Enrolment requirements |
| | On-campus (ONC) | | External (EXT) | | Online (ONL) | | | |
| | Year | Sem | Year | Sem | Year | Sem | | |
| ENG3003 Engineering Management [†] | 4 | 1 | 7 | 1,3 | | | | |
| AGR4305 Agricultural Soil Mechanics | 4 | 1 | 7 | 1 | | | | |
| ENG4111 Research Project Part 1 | 4 | 1 | 8 | 1 | | | | Pre-requisite: ENG3902 and ENG4110 and Students must be enrolled in one of the following Programs: BCNH or BCON or BEBB or BEBC or BEHB or BEHI or BEHS or BENG or BENH |
| Elective (Select from the Electives list) | 4 | 1 | 8 | 1 | | | | |
| ELE2103 Linear Systems and Control | 4 | 2 | 6 | 2 | | | | |
| ENG4112 Research Project Part 2 | 4 | 2 | 8 | 2 | | | | Pre-requisite: ENG4111 and Students must be enrolled in one of the following Programs: BCNH or BCON or BEBB or BEBC or BEHB or BEHI or BEHS or BENG or BENH |
| Elective (Select from the Electives list) | 4 | 2 | 8 | 2 | | | | |
| Practice Courses | | | | | | | | |
| ENG1901 Engineering Practice 1 | 1 | 1,2 | 1 | 2,3 | | | C | |
| CIV2901 Geology and Geomechanics Practice | 2 | 2 | 4 | 2,3 | | | C | Pre-requisite or Co-requisite: ENG1901 and CIV2403 |
| ENV2902 Hydraulics Practice | 2 | 2 | 4 | 2,3 | | | C | Pre-requisite or Co-requisite: ENV2103 or ENV1101 |
| AGR2902 Field Practice | 2 | | 3 | 3 | | | C | |
| AGR3903 Soil and Water Engineering Practice 2 [^] | 3 | | 6 | 2 | | | C | |
| AGR3905 Agricultural Engineering Practice | | | 6 | 3 | | | C | |
| ENG3902 Professional Practice 1 | 3 | 2 | 7 | 2 | | | C | Pre-requisite: Students must be enrolled in one of the following Programs: BCNH or BCON or BEBB or BEBC or BEHB or BEHI or BEHS or BENG or BENH or MENS |
| ENG4903 Professional Practice 2 [*] | 4 | 1 | 8 | 2 | | | C | Pre-requisite: ENG3902 and Students must be enrolled in one of the following Programs: BCNH or BCON or BEBB or BEBC or BEHB or BEHI or BEHS or BENG or BENH or MENS. Students cannot enrol in ENG3902 and ENG4903 in the same semester. |
| ENG4909 Work Experience - Professional [^] | 4 | | 8 | 1,3 | | | | |
| Electives (Select from the following) | | | | | | | | |
| CIV3403 Geotechnical Engineering | | 2 | | 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 |
| ELE1301 Computer Engineering | | 1 | | 1 | | | | |

| Major study: Agricultural Engineering (Major Study Code: 12013) | | | | | | | | |
|--|--|-----|----------------|-----|--------------|-----|--|------------------------|
| Course | Year of program and semester in which course is normally studied | | | | | | Residential school | Enrolment requirements |
| | On-campus (ONC) | | External (EXT) | | Online (ONL) | | | |
| | Year | Sem | Year | Sem | Year | Sem | | |
| ENG4004 Engineering Project and Operations Management [†] | | 2,3 | | 2,3 | | | | |
| MEC4406 Robotics and Machine Vision | | 2 | | 2 | | | Pre-requisite: MEC2401 or ELE2103 or Students must be enrolled in one of the following Programs: MENS or GCEN | |
| ENV2201 Land Studies | | 1 | | 1 | | | | |
| ENV4107 Water Resources Engineering | | 2 | | 2 | | | Pre-requisite: (ENV3104 and ENV3105) or Students must be enrolled in one of the following Programs: GCEN or METC or MEPR or GCNS or GDNS or MENS | |
| ENV4203 Public Health Engineering | | 2 | | 2 | | | Pre-requisite: ENV1101 or ENV2103 or Students must be enrolled in one of the following Programs: GCEN or METC or MEPR or GCNS or GDNS or MENS | |
| ENV4204 Environmental Technology | | 1 | | 1 | | | Pre-requisite: ENV2105 or Students must be enrolled in one of the following Programs: PDEV or GCEN or METC or MEPR or GCNS or GDNS or MENS | |
| GIS1402 Geographic Information Systems | | 1 | | 1,3 | | | | |
| MEC2202 Manufacturing Processes | | 1 | | 1 | | | Pre-requisite: MEC1201 or Students must be enrolled in one of the following Programs: MEPR or GCEN | |
| MEC2301 Design of Machine Elements | | 2 | | 2 | | | Pre-requisite: (MEC2402 and ENG1100) or Students must be enrolled in one of the following Programs: MEPR or GCEN or GEPR | |
| MEC3203 Materials Technology | | 1 | | 1 | | | Pre-requisite: MEC1201 or Students must be enrolled in one of the following Programs: GCEN or METC or GCNS or GDNS or MEPR or MENS | |
| MEC3302 Computational Mechanics in Design | | 1 | | 1 | | | Pre-requisite: (MEC2304 and MEC2401 and MEC2402) or Students must be enrolled in one of the following Programs: GCEN or METC or MEPR or GCNS or GDNS or MENS | |
| MEC3303 Mechanical and Mechatronic System Design | | 2 | | 2 | | | Pre-requisite: MEC2301 or Students must be enrolled in one of the following Programs: GCEN or METC or GCNS or GDNS or MEPR or MENS | |
| REN1201 Environmental Studies | | 1 | | 1 | | | Enrolment is not permitted in REN1201 if REN8101 has been previously completed. | |

Footnotes

- † The semester 3 offering of this course is offered in odd numbered years only.
 ^ On-campus students should enrol in the external mode.
 * Students need to enrol in [ENG4909 Work Experience - Professional](#) to record their relevant work experience.
 ‡ The semester 3 offering of this course is offered in even numbered years only.

Civil Engineering Major recommended enrolment pattern (Toowoomba and Springfield Campus)

Students are able to enrol in any offered mode of a course (on-campus, external or online), regardless of the program mode of study they enrolled in.

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

Elective courses are included in the list of Academic courses. Students should select these courses from the Electives listing.

| Major study: Civil Engineering (Major Study Code: 12014) | | | | | | | | |
|--|--|-----|----------------|-------|--------------|-----|--------------------|--|
| Course | Year of program and semester in which course is normally studied | | | | | | Residential school | Enrolment requirements |
| | On-campus (ONC) | | External (EXT) | | Online (ONL) | | | |
| | Year | Sem | Year | Sem | Year | Sem | | |
| Academic Courses | | | | | | | | |
| ENG1002 Introduction to Engineering and Built Environment Applications | 1 | 1,2 | 1 | 1,2 | | | | |
| ENM1600 Engineering Mathematics | 1 | 1 | 1 | 1,2 | | | | |
| ENG1100 Introduction to Engineering Design | 1 | 2 | 1 | 1,2 | | | | |
| ENG1101 | 1 | 1 | 2 | 1,2 | | | | |
| CIV1501 Engineering Statics | 1 | 2 | 1 | 2,3 | | | | Pre-requisite: ENM1600 or (ENM1500 and CIV1500) or Students must be enrolled in one of the following Program s: MEPR or GCEN or GEPR |
| MEC1201 Engineering Materials | 1 | 1 | 2 | 1,2,3 | | | | |
| ENG2102 | 1 | 2 | 2 | 2,3 | | | | |
| SVY1500 Spatial Science for Engineers | 1 | 2 | 2 | 2 | | | | |
| ENM2600 Advanced Engineering Mathematics | 2 | 1 | 3 | 1 | | | | Pre-requisite: ENM1600 or Students must be enrolled in one of the following Program s: GCEN or METC or MENS or GDNS or MEPR or MSCN |
| ENV2103 Hydraulics I | 2 | 1 | 3 | 1 | | | | Pre-requisite: CIV1500 or CIV1501 or Students must be enrolled in the following Program: GCEN or GEPR |
| MEC2402 Stress Analysis | 2 | 1 | 4 | 1 | | | | Pre-requisite: CIV1501 or S tudents must be enrolled in one of the following Program s: GCEN or METC or MEPR or GCNS or GDNS or MENS or GEPR |
| ENG2002 Technology, Sustainability and Society | 2 | 1 | 4 | 1,2,3 | | | | |
| ENG3104 Engineering Simulations and Computations | 2 | 2 | 3 | 2 | | | | Pre-requisite: (ENM2600 or MAT2100 or MAT2500) or S tudents must be enrolled in one of the following Program s: GDET or METC or GDNS or MENS |

| Major study: Civil Engineering (Major Study Code: 12014) | | | | | | | | |
|--|--|-----|----------------|-----|--------------|-----|--|------------------------|
| Course | Year of program and semester in which course is normally studied | | | | | | Residential school | Enrolment requirements |
| | On-campus (ONC) | | External (EXT) | | Online (ONL) | | | |
| | Year | Sem | Year | Sem | Year | Sem | | |
| Elective (Select from the Electives list) | 2 | 2 | 3 | 2 | | | | |
| CIV2403 Geology and Geomechanics | 2 | 2 | 4 | 2 | | | Pre-requisite: CIV1501 or CIV1500 or Students must be enrolled in one of the following Programs: MENS or GCEN or GEPR | |
| CIV2503 Structural Design I | 2 | 2 | 4 | 2 | | | Pre-requisite: (ENG1100 and MEC2402) or (ENG1100 and CIV1501 for students enrolled in one of the following: BETC Infrastructure Management major or BENS Infrastructure Management Engineering major) or Students must be enrolled in: GCEN or GEPR | |
| ENV3104 Hydraulics II | 3 | 1 | 5 | 1 | | | Pre-requisite: ENV1101 or ENV2103 or Students must be enrolled in one of the following Programs: GCEN or METC or MEPR or GCNS or GDNS or MENS | |
| CIV3505 Structural Analysis | 3 | 1 | 5 | 1 | | | 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 or GEPR | |
| CIV3506 Concrete Structures[#] | 3 | 1 | 6 | 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 | |
| CIV2605 Construction Engineering | 3 | 1 | 6 | 1 | | | | |
| ENG4110 Engineering Research Methodology | 3 | 2 | 7 | 2 | | | | |
| CIV3403 Geotechnical Engineering | 3 | 2 | 5 | 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 | |
| ENV3105 Hydrology | 3 | 2 | 6 | 2 | | | | |
| CIV3703 Transport Engineering | 3 | 2 | 6 | 2 | | | | |
| CIV4508 Structural Design II | 4 | 1 | 7 | 1 | | | Pre-requisite: CIV3505 and CIV3506 or Students must be enrolled in one of the following Programs: GCEN or METC or MEPR or GCNS or GDNS or MENS | |
| ENG3003 Engineering Management[†] | 4 | 1 | 7 | 1,3 | | | | |
| ENG4111 Research Project Part 1 | 4 | 1 | 8 | 1 | | | Pre-requisite: ENG3902 and ENG4110 and Students must be enrolled in one of the following Programs: BCNH or BCON or BEBB or BEBC or | |

| Major study: Civil Engineering (Major Study Code: 12014) | | | | | | | | |
|---|--|-----|----------------|-----|--------------|-----|--------------------|---|
| Course | Year of program and semester in which course is normally studied | | | | | | Residential school | Enrolment requirements |
| | On-campus (ONC) | | External (EXT) | | Online (ONL) | | | |
| | Year | Sem | Year | Sem | Year | Sem | | |
| | | | | | | | | BEHB or BEHI or BEHS or BENG or BENH |
| Elective (Select from the Electives list) | 4 | 1 | 8 | 1 | | | | |
| Elective (Select from the Electives list) | 4 | 2 | 5 | 2 | | | | |
| ENV4203 Public Health Engineering | 4 | 2 | 7 | 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 |
| ENG4112 Research Project Part 2 | 4 | 2 | 8 | 2 | | | | Pre-requisite: ENG4111 and Students must be enrolled in one of the following Programs: BCNH or BCON or BEBB or BEBC or BEHB or BEHI or BEHS or BENG or BENH |
| Elective (Select from the Electives list) | 4 | 2 | 8 | 2 | | | | |
| Practice Courses | | | | | | | | |
| ENG1901 Engineering Practice 1 | 1 | 1,2 | 1 | 2,3 | | | C | |
| CIV2901 Geology and Geomechanics Practice | 2 | 2 | 4 | 2,3 | | | C | Pre-requisite or Co-requisite: ENG1901 and CIV2403 |
| ENV2902 Hydraulics Practice | 2 | 2 | 3 | 2,3 | | | C | Pre-requisite or Co-requisite: ENV2103 or ENV1101 |
| CIV3906 Civil Materials Practice | 3 | 1 | 5 | 3 | | | C | Pre-requisite: MEC1201 and ENG1901 or Students must be enrolled in one of the following programs: ADCN or BCON or BCNH |
| CIV3907 Civil Systems Practice [^] | | | 6 | 3 | | | C | Pre-requisite: CIV2503 or Students must be enrolled in one of the following Programs: MENS or MEPR |
| CIV4908 Civil Design Practice [^] | | | 8 | 2 | | | C | Co-requisite: CIV4508 or Students must be enrolled in the following Program: MEPR or MENS |
| ENG3902 Professional Practice 1 | 3 | 2 | 7 | 2 | | | C | Pre-requisite: Students must be enrolled in one of the following Programs: BCNH or BCON or BEBB or BEBC or BEHB or BEHI or BEHS or BENG or BENH or MENS |
| ENG4903 Professional Practice 2 [*] | 4 | 1 | 8 | 2 | | | C | Pre-requisite: ENG3902 and Students must be enrolled in one of the following Programs: BCNH or BCON or BEBB or BEBC or BEHB or BEHI or BEHS or BENG or BENH or MENS. Students cannot enrol in ENG3902 and ENG4903 in the same semester. |
| ENG4909 Work Experience - Professional [^] | 4 | | 8 | 1,3 | | | | |
| Electives (Select from the following) | | | | | | | | |
| AGR3304 Soil Science | | 1 | | 1 | | | | |

| Major study: Civil Engineering (Major Study Code: 12014) | | | | | | | | |
|--|--|-----|----------------|-----|--------------|-----|---|------------------------|
| Course | Year of program and semester in which course is normally studied | | | | | | Residential school | Enrolment requirements |
| | On-campus (ONC) | | External (EXT) | | Online (ONL) | | | |
| | Year | Sem | Year | Sem | Year | Sem | | |
| CIV3603 Construction Methods | | | | 2 | | | | |
| ENG4004 Engineering Project and Operations Management [†] | | 2,3 | | 2,3 | | | | |
| ENV2201 Land Studies | | 1 | | 1 | | | | |
| ENV4107 Water Resources Engineering | | 2 | | 2 | | | Pre-requisite: (ENV3104 and ENV3105) or Students must be enrolled in one of the following Programs: GCEN or METC or MEPR or GCNS or GDNS or MENS | |
| ENV4204 Environmental Technology | | 1 | | 1 | | | Pre-requisite: ENV2105 or Students must be enrolled in one of the following Programs: PDEV or GCEN or METC or MEPR or GCNS or GDNS or MENS | |
| GIS1402 Geographic Information Systems | | 1 | | 1,3 | | | | |
| REN1201 Environmental Studies | | 1 | | 1 | | | Enrolment is not permitted in REN1201 if REN8101 has been previously completed. | |
| SVY1104 Survey Computations A | | 2 | | 2 | | | Pre-requisite: SVY1102 or SVY1500 or Students must be enrolled in one of the following Programs: GCST or GDST or MSPT | |
| URP3201 Sustainable Urban Design and Development | | 2 | | 2 | | | | |
| Either | | | | | | | | |
| CIV8802 Advanced Prestressed Concrete ^{>} | | | | | | 2 | | |
| or | | | | | | | | |
| CIV8803 Advanced Mechanics and Technology of Fibre Composites | | | | | | 1 | Pre-requisite: CIV3506 or MEC3203 or Students must be enrolled in one of the following Programs: GCEN or PGCN or METC or MEPR or GCNS or GDNS or MENS or MENC or MAEN | |

Footnotes

- # Not available on-campus at Springfield in 2017.
- † The semester 3 offering of this course is offered in odd numbered years only.
- ^ On-campus students should enrol in the external mode.
- * Students need to enrol in [ENG4909 Work Experience - Professional](#) to record their relevant work experience.
- ‡ The semester 3 offering of this course is offered in even numbered years only.
- > Offered Odd Years Only

Computer Systems Engineering Major recommended enrolment pattern

Students are able to enrol in any offered mode of a course (on-campus, external or online), regardless of the program mode of study they enrolled in.

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

All students granted exemption from [ELE1801](#) are strongly advised to purchase the [ELE1801](#) study guide from the [USQ Bookshop](#) and work through this prior to attempting courses for which [ELE1801](#) is an enrolment requirement.

| Major study: Computer Systems Engineering (Major Study Code: 12017) | | | | | | | | |
|--|--|-----|----------------|-------|--------------|-----|--------------------|--|
| Course | Year of program and semester in which course is normally studied | | | | | | Residential school | Enrolment requirements |
| | On-campus (ONC) | | External (EXT) | | Online (ONL) | | | |
| | Year | Sem | Year | Sem | Year | Sem | | |
| Academic Courses | | | | | | | | |
| CSC1401 Foundation Programming | 1 | 1 | 1 | 1,2 | | | | |
| ENM1600 Engineering Mathematics | 1 | 1 | 1 | 1,2 | | | | |
| ENG1002 Introduction to Engineering and Built Environment Applications | 1 | 1,2 | 1 | 1,2 | | | | |
| ELE1801 Electrical Technology | 1 | 2 | 1 | 2,3 | | | | Pre-requisite: ENM1500 or ENM1600 or Students must be enrolled in one of the following Programs: MEPR or GCEN or GEPR |
| ENG1101 | 1 | 1 | 2 | 1,2 | | | | |
| ELE1301 Computer Engineering | 1 | 1 | 2 | 1 | | | | |
| ENG2102 | 1 | 2 | 2 | 2,3 | | | | |
| ELE1502 Electronic Circuits | 1 | 2 | 2 | 2 | | | | |
| ENM2600 Advanced Engineering Mathematics | 2 | 1 | 3 | 1 | | | | Pre-requisite: ENM1600 or Students must be enrolled in one of the following Programs: GCEN or METC or MENS or GDNS or MEPR or MSCN |
| ELE2303 Embedded Systems Design | 2 | 1 | 3 | 1 | | | | |
| CSC2402 Object-Oriented Programming in C++ | 2 | 1 | 3 | 1 | | | | Pre-requisite: CSC1401 or Students must be enrolled in one of the following Programs: GDTI or GCSC or GCEN or METC or MCOT or MCTE or MCOP or MPIT or MCTN |
| ELE2103 Linear Systems and Control | 2 | 2 | 3 | 2 | | | | |
| ENG1100 Introduction to Engineering Design | 2 | 2 | 4 | 1,2 | | | | |
| MAT1101 Discrete Mathematics for Computing | 2 | 1 | 4 | 1 | | | | |
| ENG3104 Engineering Simulations and Computations | 2 | 2 | 4 | 2 | | | | Pre-requisite: (ENM2600 or MAT2100 or MAT2500) or Students must be enrolled in one of the following Programs: GDET or METC or GDNS or MENS |
| Elective (Select from the Electives list) | 2 | 2 | 4 | 2 | | | | |
| ENG2002 Technology, Sustainability and Society | 3 | 1 | 5 | 1,2,3 | | | | |
| ELE2601 Telecommunications Principles | 3 | 1 | 5 | 1 | | | | Pre-requisite: (ELE1502 and ELE1801) or Students must be enrolled in one of the following Programs: GCEN or METC or GEPR |
| ELE2504 Electronic Design and Analysis | 3 | 2 | 5 | 2 | | | | Pre-requisite: ELE1502 or Students must be enrolled in one of the following Programs: MEPR or GDNS or MENS or GCNS or GCEN or GEPR |
| ELE3307 Real Time Systems | 3 | 2 | 5 | 2 | | | | Pre-requisite: ELE1301 or Students must be enrolled in one of the following Program |

| Major study: Computer Systems Engineering (Major Study Code: 12017) | | | | | | | | |
|---|--|-----|----------------|-----|--------------|-----|--------------------|---|
| Course | Year of program and semester in which course is normally studied | | | | | | Residential school | Enrolment requirements |
| | On-campus (ONC) | | External (EXT) | | Online (ONL) | | | |
| | Year | Sem | Year | Sem | Year | Sem | | |
| | | | | | | | | s: GCEN or GCNS or METC or MENS or MEPR |
| ELE3105 Computer Controlled Systems | 3 | 1 | 6 | 1 | | | | Pre-requisite: ELE2103 or S Students must be enrolled in one of the following Program s: GCNS or GCEN or GDNS or MEPR or MENS or METC or GEPR |
| ELE3305 Computer Systems and Communications Protocols | 3 | 1 | 6 | 1 | | | | |
| ENG4110 Engineering Research Methodology | 3 | 2 | 7 | 2 | | | | |
| ELE3107 Signal Processing | 3 | 2 | 6 | 2 | | | | |
| CSC2401 Algorithms and Data Structures | 4 | 2 | 7 | 2 | | | | Pre-requisite: CSC2402 or Students must be enrolled in one of the following Program s: GDTI or GCSC or GCEN or METC or MCOT or MCTE or MCOP or MPIT |
| Elective (Select from the Electives list) | 4 | 1 | 7 | 1 | | | | |
| Elective (Select from the Electives list) | 4 | 2 | 6 | 2 | | | | |
| CSC2408 Software Development Tools | 4 | 1,2 | 7 | 1,2 | | | | Pre-requisite: CSC1401 |
| ENG3003 Engineering Management[†] | 4 | 1 | 8 | 1,3 | | | | |
| ENG4111 Research Project Part 1 | 4 | 1 | 8 | 1 | | | | Pre-requisite: ENG3902 and ENG4110 and Students must be enrolled in one of the following Programs: BCNH or BCON or BEBB or BEBC or BEHB or BEHI or BEHS or BENG or BENH |
| ENG4112 Research Project Part 2 | 4 | 2 | 8 | 2 | | | | Pre-requisite: ENG4111 and Students must be enrolled in one of the following Program s: BCNH or BCON or BEBB or BEBC or BEHB or BEHI or BEHS or BENG or BENH |
| ENG4004 Engineering Project and Operations Management[‡] | 4 | 2 | 8 | 2,3 | | | | |
| Practice Courses | | | | | | | | |
| ENG1901 Engineering Practice 1 | 1 | 1,2 | 1 | 2,3 | | | C | |
| ELE1911 Electrical and Electronic Practice A | 1 | 2 | 2 | 3 | | | C | |
| ELE2912 Electrical and Electronic Practice B | 2 | 1 | 3 | 3 | | | C | Pre-requisite: (ELE1301 and ELE1502 and ELE1801) or Students must be enrolled in one of the following Program s: GDNS or MENS |
| ELE2913 Electrical and Electronic Practice C | 2 | 2 | 4 | 2 | | | C | Pre-requisite: (ELE1301 and ELE1502 and ELE1801) or Students must be enrolled in one of the following Program s: GDNS or MENS |
| ELE3914 Electrical and Electronic Practice D | 3 | 1 | 5 | 2 | | | C | Pre-requisite: (ELE1801 and ELE1301 and ELE1502) or Students must be enrolled in |

| Major study: Computer Systems Engineering (Major Study Code: 12017) | | | | | | | | |
|---|--|-----|----------------|-----|--------------|-----|--|------------------------|
| Course | Year of program and semester in which course is normally studied | | | | | | Residential school | Enrolment requirements |
| | On-campus (ONC) | | External (EXT) | | Online (ONL) | | | |
| | Year | Sem | Year | Sem | Year | Sem | | |
| | | | | | | | one of the following Programs: MENS or MEPR | |
| ELE3915 Electrical and Electronic Practice E | 3 | 2 | 6 | 2 | | | C Pre-requisite: ELE1801 and ELE1301 and ELE1502 or S Students must be enrolled in one of the following Programs: MENS or MEPR | |
| ENG3902 Professional Practice 1 | 3 | 2 | 7 | 2 | | | C Pre-requisite: Students must be enrolled in one of the following Programs: BCNH or BCON or BEBB or BEBC or BEHB or BEHI or BEHS or BENG or BENH or MENS | |
| ENG4903 Professional Practice 2 * | 4 | 1 | 8 | 2 | | | C Pre-requisite: ENG3902 and Students must be enrolled in one of the following Programs: BCNH or BCON or BEBB or BEBC or BEHB or BEHI or BEHS or BENG or BENH or MENS. Students cannot enrol in ENG3902 and ENG4903 in the same semester. | |
| ENG4909 Work Experience - Professional [^] | 4 | | 8 | 1,3 | | | | |
| Electives (Select from the following) | | | | | | | | |
| CSC3403 Comparative Programming Languages | | 1 | | 1 | | | Pre-req: CSC2408 ; and Pre-req or Co-req: CSC2402 ; or Students must be enrolled in one of the following Programs: GDTI or GCSC or GCEN or METC or MCOT or MCTE or MCOP or MPIT Enrolment is not permitted in CSC3403 if CIS3001 has been previously completed | |
| ELE3506 Electronic Measurement | | 2 | | 2 | | | Pre-requisite: (ELE1502 and (ELE2101 or ELE2103) and (ELE2503 or ELE2504)) or Students must be enrolled in one of the following Programs: GCEN or METC or MEPR or MENS | |
| ELE4402 | | | | 2 | | | | |
| ELE4607 Advanced Digital Communications | | 1 | | 1 | | | Pre-requisite: ELE1301 or S 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 | | 2 | | 2 | | | Pre-requisite: MEC2401 or ELE2103 or Students must be enrolled in one of the following Programs: MENS or GCEN | |

Footnotes

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

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

* Students need to enrol in [ENG4909 Work Experience - Professional](#) to record their relevant work experience.

^ On-campus students should enrol in the external mode.

Electrical and Electronic Engineering Major recommended enrolment pattern

Students are able to enrol in any offered mode of a course (on-campus, external or online), regardless of the program mode of study they enrolled in.

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

Students who have been granted an exemption from [ELE1801 Electrical Technology](#) are strongly advised to purchase the [ELE1801](#) study guide from the [USQ Bookshop](#) and work through this prior to attempting courses for which [ELE1801](#) is an enrolment requirement.

| Major study: Electrical and Electronic Engineering (Major Study Code: 12018) | | | | | | | | |
|--|--|-----|----------------|-------|--------------|-----|--|------------------------|
| Course | Year of program and semester in which course is normally studied | | | | | | Residential school | Enrolment requirements |
| | On-campus (ONC) | | External (EXT) | | Online (ONL) | | | |
| | Year | Sem | Year | Sem | Year | Sem | | |
| Academic Courses | | | | | | | | |
| MEC1201 Engineering Materials | 1 | 1 | 1 | 1,2,3 | | | | |
| ENM1600 Engineering Mathematics | 1 | 1 | 1 | 1,2 | | | | |
| ENG1002 Introduction to Engineering and Built Environment Applications | 1 | 1,2 | 1 | 1,2 | | | | |
| ELE1801 Electrical Technology | 1 | 2 | 1 | 2,3 | | | Pre-requisite: ENM1500 or ENM1600 or Students must be enrolled in one of the following Programs: MEPR or GCEN or GEPR | |
| ENG1101 | 1 | 1 | 2 | 1,2 | | | | |
| ELE1301 Computer Engineering | 1 | 1 | 2 | 1 | | | | |
| ENG2102 | 1 | 2 | 2 | 2,3 | | | | |
| ELE1502 Electronic Circuits | 1 | 2 | 2 | 2 | | | | |
| ENM2600 Advanced Engineering Mathematics | 2 | 1 | 3 | 1 | | | Pre-requisite: ENM1600 or Students must be enrolled in one of the following Programs: GCEN or METC or MENS or GDNS or MEPR or MSCN | |
| ELE2303 Embedded Systems Design | 2 | 1 | 3 | 1 | | | | |
| Elective (Select from the Electives list) | 2 | 2 | 3 | 2 | | | | |
| ELE2103 Linear Systems and Control | 2 | 2 | 3 | 2 | | | | |
| ENG1100 Introduction to Engineering Design | 2 | 1 | 4 | 1,2 | | | | |
| ELE2601 Telecommunications Principles | 2 | 1 | 4 | 1 | | | Pre-requisite: (ELE1502 and ELE1801) or Students must be enrolled in one of the following Programs: GCEN or METC or GEPR | |
| ENG3104 Engineering Simulations and Computations | 2 | 2 | 4 | 2 | | | Pre-requisite: (ENM2600 or MAT2100 or MAT2500) or Students must be enrolled in one of the following Programs: GDET or METC or GDNS or MENS | |
| ELE2504 Electronic Design and Analysis | 2 | 2 | 4 | 2 | | | Pre-requisite: ELE1502 or Students must be enrolled in one of the following Programs: MEPR or GDNS or MENS or GCNS or GCEN or GEPR | |

| Major study: Electrical and Electronic Engineering (Major Study Code: 12018) | | | | | | | | |
|--|--|-----|----------------|-------|--------------|-----|--|------------------------|
| Course | Year of program and semester in which course is normally studied | | | | | | Residential school | Enrolment requirements |
| | On-campus (ONC) | | External (EXT) | | Online (ONL) | | | |
| | Year | Sem | Year | Sem | Year | Sem | | |
| ENG2002 Technology, Sustainability and Society | 3 | 1 | 5 | 1,2,3 | | | | |
| ELE3803 Electrical Plant | 3 | 1 | 5 | 1 | | | Pre-requisite: ELE1801 or S tudents must be enrolled in one of the following Program s: GCEN or METC or MEPR or GCNS or GDNS or MENS or GEPR | |
| ELE3506 Electronic Measurement | 3 | 2 | 5 | 2 | | | Pre-requisite: (ELE1502 and (ELE2101 or ELE2103) and (ELE2503 or ELE2504)) or Students must be enrolled in one of the following Program s: GCEN or METC or MEPR or MENS | |
| ELE3805 Power Electronics Principles and Applications | 3 | 2 | 5 | 2 | | | Pre-requisite: (ELE1502 and ELE1801) or Students must be enrolled in one of the fol lowing Programs: GCEN or METC or MEPR or GCNS or GDNS or MENS | |
| ELE3305 Computer Systems and Communications Protocols | 3 | 1 | 6 | 1 | | | | |
| ELE3105 Computer Controlled Systems | 3 | 1 | 6 | 1 | | | Pre-requisite: ELE2103 or S tudents must be enrolled in one of the following Program s: GCNS or GCEN or GDNS or MEPR or MENS or METC or GEPR | |
| ENG4110 Engineering Research Methodology | 3 | 2 | 6 | 2 | | | | |
| ELE3107 Signal Processing | 3 | 2 | 6 | 2 | | | | |
| ELE4605 Fields and Waves | 4 | 1 | 7 | 1 | | | Pre-requisite: {(MAT1502 or ENM1600) and ELE2103 and ELE2601 } or Students must be enrolled in one of the fol lowing Programs: MEPR or MENS or GCNS or GDNS | |
| Elective (Select from the Electives list) | 4 | 1 | 7 | 1 | | | | |
| ELE4606 Communication Systems | 4 | 2 | 7 | 2 | | | Pre-requisite: (ELE2504 and ELE2601) or Students must be enrolled in one of the fol lowing Programs: GCEN or METC or MEPR or MENS or GCNS or GDNS | |
| Elective (Select from the Electives list) | 4 | 2 | 7 | 2 | | | | |
| ENG3003 Engineering Management [†] | 4 | 1 | 8 | 1,3 | | | | |
| ENG4111 Research Project Part 1 | 4 | 1 | 8 | 1 | | | Pre-requisite: ENG3902 and ENG4110 and Students must be enrolled in one of the fol lowing Programs: BCNH or BCON or BEBB or BEBC or BEHB or BEHI or BEHS or BENG or BENH | |
| ENG4112 Research Project Part 2 | 4 | 2 | 8 | 2 | | | Pre-requisite: ENG4111 and Students must be enrolled in one of the following Program s: BCNH or BCON or BEBB | |

| Major study: Electrical and Electronic Engineering (Major Study Code: 12018) | | | | | | | | |
|---|--|-----|----------------|-----|--------------|-----|--------------------|---|
| Course | Year of program and semester in which course is normally studied | | | | | | Residential school | Enrolment requirements |
| | On-campus (ONC) | | External (EXT) | | Online (ONL) | | | |
| | Year | Sem | Year | Sem | Year | Sem | | |
| | | | | | | | | or BEBC or BEHB or BEHI or BEHS or BENG or BENH |
| ENG4004 Engineering Project and Operations Management[‡] | 4 | 2 | 8 | 2,3 | | | | |
| Practice Courses | | | | | | | | |
| ENG1901 Engineering Practice 1 | 1 | 1,2 | 1 | 2,3 | | | C | |
| ELE1911 Electrical and Electronic Practice A | 1 | 2 | 2 | 3 | | | C | |
| ELE2912 Electrical and Electronic Practice B | 2 | 1 | 3 | 3 | | | C | Pre-requisite: (ELE1301 and ELE1502 and ELE1801) or Students must be enrolled in one of the following Programs: GDNS or MENS |
| ELE2913 Electrical and Electronic Practice C | 2 | 2 | 4 | 2 | | | C | Pre-requisite: (ELE1301 and ELE1502 and ELE1801) or Students must be enrolled in one of the following Programs: GDNS or MENS |
| ELE3914 Electrical and Electronic Practice D | 3 | 1 | 5 | 2 | | | C | Pre-requisite: (ELE1801 and ELE1301 and ELE1502) or Students must be enrolled in one of the following Programs: MENS or MEPR |
| ELE3915 Electrical and Electronic Practice E | 3 | 2 | 6 | 2 | | | C | Pre-requisite: ELE1801 and ELE1301 and ELE1502 or Students must be enrolled in one of the following Programs: MENS or MEPR |
| ENG3902 Professional Practice 1 | 3 | 2 | 7 | 2 | | | C | Pre-requisite: Students must be enrolled in one of the following Programs: BCNH or BCON or BEBB or BEBC or BEHB or BEHI or BEHS or BENG or BENH or MENS |
| ENG4903 Professional Practice 2[*] | 4 | 1 | 8 | 2 | | | C | Pre-requisite: ENG3902 and Students must be enrolled in one of the following Programs: BCNH or BCON or BEBB or BEBC or BEHB or BEHI or BEHS or BENG or BENH or MENS. Students cannot enrol in ENG3902 and ENG4903 in the same semester. |
| ENG4909 Work Experience - Professional[^] | 4 | | 8 | 1,3 | | | | |
| Electives (Select from the following) | | | | | | | | |
| ELE2704 Electricity Supply Systems | | 2 | | 2 | | | | Pre-requisite: ELE1801 or Students must be enrolled in one of the following Programs: MEPR or GCEN or METC or GEPR |
| ELE3307 Real Time Systems | | 2 | | 2 | | | | Pre-requisite: ELE1301 or Students must be enrolled in one of the following Programs: GCEN or GCNS or METC or MENS or MEPR |

| Major study: Electrical and Electronic Engineering (Major Study Code: 12018) | | | | | | | | |
|--|--|-----|----------------|-----|--------------|-----|--|------------------------|
| Course | Year of program and semester in which course is normally studied | | | | | | Residential school | Enrolment requirements |
| | On-campus (ONC) | | External (EXT) | | Online (ONL) | | | |
| | Year | Sem | Year | Sem | Year | Sem | | |
| ELE3807 Power Systems Analysis | | 1 | | 1 | | | | |
| ELE4607 Advanced Digital Communications | | 1 | | 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 | | 2 | | 2 | | | Pre-requisite: MEC2401 or ELE2103 or Students must be enrolled in one of the following Programs: MENS or GCEN | |
| ELE3804 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 | |

Footnotes

- † The semester 3 offering of this course is offered in odd numbered years only.
- ‡ The semester 3 offering of this course is offered in even numbered years only.
- * Students need to enrol in [ENG4909 Work Experience - Professional](#) to record their relevant work experience.
- ^ On-campus students should enrol in the external mode.

Environmental Engineering Major recommended enrolment

Students are able to enrol in any offered mode of a course (on-campus, external or online), regardless of the program mode of study they enrolled in.

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

The course [AGR2902 Field Practice](#) may involve overnight field trips for which each student will be responsible for their own accommodation costs. This course is not offered in the on-campus mode. On-campus students should enrol in the external mode.

| Major study: Environmental Engineering (Major Study Code: 12015) | | | | | | | | |
|--|--|-----|----------------|-------|--------------|-----|---|------------------------|
| Course | Year of program and semester in which course is normally studied | | | | | | Residential school | Enrolment requirements |
| | On-campus (ONC) | | External (EXT) | | Online (ONL) | | | |
| | Year | Sem | Year | Sem | Year | Sem | | |
| Academic Courses | | | | | | | | |
| ENG1002 Introduction to Engineering and Built Environment Applications | 1 | 1,2 | 1 | 1,2 | | | | |
| ENM1600 Engineering Mathematics | 1 | 1 | 1 | 1,2 | | | | |
| ENG1100 Introduction to Engineering Design | 1 | 2 | 1 | 1,2 | | | | |
| ENG1101 | 1 | 1 | 2 | 1,2 | | | | |
| CIV1501 Engineering Statics | 1 | 2 | 1 | 2,3 | | | Pre-requisite: ENM1600 or (ENM1500 and CIV1500) or Students must be enrolled in one of the following Programs: MEPR or GCEN or GEPR | |
| MEC1201 Engineering Materials | 1 | 1 | 2 | 1,2,3 | | | | |
| ENG2102 | 1 | 2 | 2 | 2,3 | | | | |
| SVY1500 Spatial Science for Engineers | 1 | 2 | 2 | 2 | | | | |

| Major study: Environmental Engineering (Major Study Code: 12015) | | | | | | | | |
|--|--|-----|----------------|-------|--------------|-----|--|------------------------|
| Course | Year of program and semester in which course is normally studied | | | | | | Residential school | Enrolment requirements |
| | On-campus (ONC) | | External (EXT) | | Online (ONL) | | | |
| | Year | Sem | Year | Sem | Year | Sem | | |
| REN1201 Environmental Studies | 2 | 1 | 3 | 1 | | | Enrolment is not permitted in REN1201 if REN8101 has been previously completed. | |
| ENM2600 Advanced Engineering Mathematics | 2 | 1 | 3 | 1 | | | Pre-requisite: ENM1600 or Students must be enrolled in one of the following Program s: GCEN or METC or MENS or GDNS or MEPR or MSCN | |
| ENV2103 Hydraulics I | 2 | 1 | 4 | 1 | | | Pre-requisite: CIV1500 or CIV1501 or Students must be enrolled in the following Program: GCEN or GEPR | |
| MEC2402 Stress Analysis | 2 | 1 | 4 | 1 | | | Pre-requisite: CIV1501 or S tudents must be enrolled in one of the following Program s: GCEN or METC or MEPR or GCNS or GDNS or MENS or GEPR | |
| Elective (Select from the Electives list) | 2 | 2 | 3 | 2 | | | | |
| ENG3104 Engineering Simulations and Computations | 2 | 2 | 3 | 2 | | | Pre-requisite: (ENM2600 or MAT2100 or MAT2500) or S tudents must be enrolled in one of the following Program s: GDET or METC or GDNS or MENS | |
| CIV2403 Geology and Geomechanics | 2 | 2 | 4 | 2 | | | Pre-requisite: CIV1501 or CIV1500 or Students must be enrolled in one of the follow ing Programs: MENS or G CEN or GEPR | |
| AGR2301 Agricultural Science | 2 | 2 | 4 | 2 | | | | |
| AGR3304 Soil Science | 3 | 1 | 5 | 1 | | | | |
| ENG2002 Technology, Sustainability and Society | 3 | 2 | 5 | 1,2,3 | | | | |
| ENV3104 Hydraulics II | 3 | 1 | 5 | 1 | | | Pre-requisite: ENV1101 or ENV2103 or Students must be enrolled in one of the fol lowing Programs: GCEN or METC or MEPR or GCNS or GDNS or MENS | |
| ENG3003 Engineering Management [†] | 3 | 1 | 6 | 1,3 | | | | |
| Elective (Select from the Electives list) | 3 | 1 | 6 | 1 | | | | |
| ENG4110 Engineering Research Methodology | 3 | 2 | 7 | 2 | | | | |
| ENV3105 Hydrology | 3 | 2 | 6 | 2 | | | | |
| ENV4203 Public Health Engineering | 3 | 2 | 6 | 2 | | | Pre-requisite: ENV1101 or ENV2103 or Students must be enrolled in one of the fol lowing Programs: GCEN or METC or MEPR or GCNS or GDNS or MENS | |
| ENV4204 Environmental Technology | 4 | 1 | 7 | 1 | | | Pre-requisite: ENV2105 or Students must be enrolled in one of the following Program s: PDEV or GCEN or METC or MEPR or GCNS or GDNS or MENS | |

| Major study: Environmental Engineering (Major Study Code: 12015) | | | | | | | | |
|--|--|-----|----------------|-----|--------------|-----|--------------------|--|
| Course | Year of program and semester in which course is normally studied | | | | | | Residential school | Enrolment requirements |
| | On-campus (ONC) | | External (EXT) | | Online (ONL) | | | |
| | Year | Sem | Year | Sem | Year | Sem | | |
| Elective (Select from the Electives list) | 4 | 1 | 7 | 1 | | | | |
| ENG4111 Research Project Part 1 | 4 | 1 | 8 | 1 | | | | Pre-requisite: ENG3902 and ENG4110 and Students must be enrolled in one of the following Programs: BCNH or BCON or BEBB or BEBC or BEHB or BEHI or BEHS or BENG or BENH |
| Elective (Select from the Electives list) | 4 | 1 | 8 | 1 | | | | |
| ECO8012 Methods for Sustainable Development [#] | 4 | | 5 | | | 2 | | |
| ENV4106 Irrigation Science | 4 | 2 | 7 | 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. |
| ENV4107 Water Resources Engineering | 4 | 2 | 8 | 2 | | | | Pre-requisite: (ENV3104 and ENV3105) or Students must be enrolled in one of the following Programs: GCEN or METC or MEPR or GCNS or GDNS or MENS |
| ENG4112 Research Project Part 2 | 4 | 2 | 8 | 2 | | | | Pre-requisite: ENG4111 and Students must be enrolled in one of the following Programs: BCNH or BCON or BEBB or BEBC or BEHB or BEHI or BEHS or BENG or BENH |
| Practice Courses | | | | | | | | |
| ENG1901 Engineering Practice 1 | 1 | 1,2 | 1 | 2,3 | | | C | |
| CIV2901 Geology and Geomechanics Practice | 2 | 2 | 4 | 2,3 | | | C | Pre-requisite or Co-requisite: ENG1901 and CIV2403 |
| ENV2902 Hydraulics Practice | 2 | 2 | 4 | 2,3 | | | C | Pre-requisite or Co-requisite: ENV2103 or ENV1101 |
| AGR2902 Field Practice | | | 5 | 3 | | | C | |
| AGR3903 Soil and Water Engineering Practice 2 [^] | 3 | | 6 | 2 | | | C | |
| ENV3904 Environmental Engineering Practice [^] | 3 | | 6 | 3 | | | C | Pre-requisite: ENV4203 or Students must be enrolled in one of the following Programs: GDNS or MENS or MEPR or GEPR |
| ENG3902 Professional Practice 1 | 3 | 2 | 7 | 2 | | | C | Pre-requisite: Students must be enrolled in one of the following Programs: BCNH or BCON or BEBB or BEBC or BEHB or BEHI or BEHS or BENG or BENH or MENS |
| ENG4903 Professional Practice 2 [*] | 4 | 1 | 8 | 2 | | | C | Pre-requisite: ENG3902 and Students must be enrolled in one of the following Programs: BCNH or BCON or BEBB or BEBC or BEHB or BEHI or BEHS or BENG or BENH or MENS. Students cannot enrol |

| Major study: Environmental Engineering (Major Study Code: 12015) | | | | | | | | |
|--|--|-----|----------------|-------|--------------|-----|--|------------------------|
| Course | Year of program and semester in which course is normally studied | | | | | | Residential school | Enrolment requirements |
| | On-campus (ONC) | | External (EXT) | | Online (ONL) | | | |
| | Year | Sem | Year | Sem | Year | Sem | | |
| | | | | | | | in ENG3902 and ENG4903 in the same semester. | |
| ENG4909 Work Experience - Professional [^] | 4 | | 8 | 1,3 | | | | |
| Electives (Select from the following) | | | | | | | | |
| AGR3305 Precision and Smart Technologies in Agriculture | | | | 1 | | | | |
| CLI1110 Weather and Climate | | 1 | | | | 1 | | |
| CHE1110 Chemistry 1 | | 1 | | 1 | | | | |
| CHE2120 Chemistry 2 | | 2 | | 2 | | | Pre-requisite: CHE1110 | |
| CIV3403 Geotechnical Engineering | | 2 | | 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 | |
| CIV3703 Transport Engineering | | 2 | | 2 | | | | |
| ECO1000 Economics | | 1 | | 1,2,3 | | | | |
| ENG4004 Engineering Project and Operations Management [‡] | | 2,3 | | 2,3 | | | | |
| ENV5205 Solid and Liquid Waste Treatment | | 1 | | 1 | | | | |
| GIS1402 Geographic Information Systems | | 1 | | 1,3 | | | | |
| LAW2107 Environmental Law ^{**} | | 1 | | | | 1 | Co-requisite: LAW1101 or LAW1500 or ENG2002 or REN1201 or (Students enrolled in BEDU (Legal Studies) or BLAW or LLBP or BALW or BBLA or BCLA or BCLW & Co-requisite LAW1201 or LAW1111) or (Students enrolled in DJUR & Co-requisite LAW5501 or LAW5111) | |
| MAT2200 Operations Research 1 | | 2 | | | | 2 | Pre-requisite: MAT1102 or ENM1600 or equivalent or approval from the examiner. Enrolment is not permitted in MAT2200 if MAT1200 has been previously completed. | |
| URP3201 Sustainable Urban Design and Development | | 2 | | 2 | | | | |
| SVY3202 Photogrammetry and Remote Sensing | | 1 | | 1 | | | | |

Footnotes

- † The semester 3 offering of this course is offered in odd numbered years only.
[ECO8012 Methods for Sustainable Development](#) is not offered in the on-campus mode. On-campus students should enrol in the online mode of this course.
^ On-campus students should enrol in the external mode.
* Students need to enrol in [ENG4909 Work Experience - Professional](#) to record their relevant work experience.
‡ The semester 3 offering of this course is offered in even numbered years only.
** Springfield campus only

Instrumentation and Control Engineering Major recommended enrolment pattern

Students are able to enrol in any offered mode of a course (on-campus, external or online), regardless of the program mode of study they enrolled in.

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

Students who have been granted an exemption from [ELE1801 Electrical Technology](#) are strongly advised to purchase the [ELE1801](#) study guide from the [USQ Bookshop](#) and work through this prior to attempting courses for which [ELE1801](#) is an enrolment requirement.

| Major study: Instrumentation and Control Engineering (Major Study Code: 12019) | | | | | | | | |
|--|--|-----|----------------|-------|--------------|-----|--|------------------------|
| Course | Year of program and semester in which course is normally studied | | | | | | Residential school | Enrolment requirements |
| | On-campus (ONC) | | External (EXT) | | Online (ONL) | | | |
| | Year | Sem | Year | Sem | Year | Sem | | |
| Academic Courses | | | | | | | | |
| ENG1002 Introduction to Engineering and Built Environment Applications | | | 1 | 1,2 | | | | |
| ENM1600 Engineering Mathematics | | | 1 | 1,2 | | | | |
| ELE1801 Electrical Technology | | | 1 | 2,3 | | | Pre-requisite: ENM1500 or ENM1600 or Students must be enrolled in one of the following Programs: MEPR or GCEN or GEPR | |
| ENG1100 Introduction to Engineering Design | | | 1 | 1,2 | | | | |
| ENG1101 | | | 2 | 1,2 | | | | |
| ELE1301 Computer Engineering | | | 2 | 1 | | | | |
| ENG2102 | | | 2 | 2,3 | | | | |
| ELE1502 Electronic Circuits | | | 2 | 2 | | | | |
| ENM2600 Advanced Engineering Mathematics | | | 3 | 1 | | | Pre-requisite: ENM1600 or Students must be enrolled in one of the following Programs: GCEN or METC or MENS or GDNS or MEPR or MSCN | |
| ELE2303 Embedded Systems Design | | | 3 | 1 | | | | |
| Elective (Select from the Electives list) | | | 3 | 2 | | | | |
| ELE2103 Linear Systems and Control | | | 3 | 2 | | | | |
| ELE2601 Telecommunications Principles | | | 4 | 1 | | | Pre-requisite: (ELE1502 and ELE1801) or Students must be enrolled in one of the following Programs: GCEN or METC or GEPR | |
| MEC2101 | | | 4 | 1 | | | | |
| ELE2504 Electronic Design and Analysis | | | 4 | 2 | | | Pre-requisite: ELE1502 or Students must be enrolled in one of the following Programs: MEPR or GDNS or MENS or GCNS or GCEN or GEPR | |
| ELE3307 Real Time Systems | | | 4 | 2 | | | Pre-requisite: ELE1301 or Students must be enrolled in one of the following Programs: GCEN or GCNS or METC or MENS or MEPR | |
| ENG2002 Technology, Sustainability and Society | | | 5 | 1,2,3 | | | | |
| ELE3803 Electrical Plant | | | 5 | 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 or GEPR | |

| Major study: Instrumentation and Control Engineering (Major Study Code: 12019) | | | | | | | | |
|--|--|-----|----------------|-------|--------------|-----|---|------------------------|
| Course | Year of program and semester in which course is normally studied | | | | | | Residential school | Enrolment requirements |
| | On-campus (ONC) | | External (EXT) | | Online (ONL) | | | |
| | Year | Sem | Year | Sem | Year | Sem | | |
| ELE3506 Electronic Measurement | | | 5 | 2 | | | Pre-requisite: (ELE1502 and (ELE2101 or ELE2103) and (ELE2503 or ELE2504)) or Students must be enrolled in one of the following Program s: GCEN or METC or MEPR or MENS | |
| ENG3104 Engineering Simulations and Computations | | | 5 | 2 | | | Pre-requisite: (ENM2600 or MAT2100 or MAT2500) or S tudents must be enrolled in one of the following Program s: GDET or METC or GDNS or MENS | |
| MEC3102 Fluid Mechanics | | | 6 | 1 | | | Pre-requisite: ((MAT2500 or ENM2600) and MEC2101) or Students must be enrolled in one of the following Program s: GCEN or METC or MEPR or GCNS or GDNS or MENS | |
| ELE3105 Computer Controlled Systems | | | 6 | 1 | | | Pre-requisite: ELE2103 or S tudents must be enrolled in one of the following Program s: GCNS or GCEN or GDNS or MEPR or MENS or METC or GEPR | |
| MEC1201 Engineering Materials | | | 6 | 1,2,3 | | | | |
| MEC4406 Robotics and Machine Vision | | | 6 | 2 | | | Pre-requisite: MEC2401 or ELE2103 or Students must be enrolled in one of the fol lowing Programs: MENS or GCEN | |
| ELE4109 Measurement Science & Instrument Engineering ^{>} | | | 7 | 1 | | | | |
| MEC2202 Manufacturing Processes | | | 7 | 1 | | | Pre-requisite: MEC1201 or Students must be enrolled in one of the following Program s: MEPR or GCEN | |
| ENG4110 Engineering Research Methodology | | | 7 | 2 | | | | |
| Elective (Select from the Electives list) | | | 7 | 2 | | | | |
| ENG3003 Engineering Management [†] | | | 8 | 1,3 | | | | |
| ENG4111 Research Project Part 1 | | | 8 | 1 | | | Pre-requisite: ENG3902 and ENG4110 and Students must be enrolled in one of the fol lowing Programs: BCNH or BCON or BEBB or BEBC or BEHB or BEHI or BEHS or BENG or BENH | |
| ENG4112 Research Project Part 2 | | | 8 | 2 | | | Pre-requisite: ENG4111 and Students must be enrolled in one of the following Program s: BCNH or BCON or BEBB or BEBC or BEHB or BEHI or BEHS or BENG or BENH | |
| ENG4004 Engineering Project and Operations Management [‡] | | | 8 | 2,3 | | | | |

| Major study: Instrumentation and Control Engineering (Major Study Code: 12019) | | | | | | | | |
|--|--|-----|----------------|-----|--------------|-----|--------------------|--|
| Course | Year of program and semester in which course is normally studied | | | | | | Residential school | Enrolment requirements |
| | On-campus (ONC) | | External (EXT) | | Online (ONL) | | | |
| | Year | Sem | Year | Sem | Year | Sem | | |
| Practice Courses | | | | | | | | |
| ENG1901 Engineering Practice 1 | | | 1 | 2,3 | | | C | |
| ELE1911 Electrical and Electronic Practice A | | | 2 | 3 | | | C | |
| ELE2912 Electrical and Electronic Practice B | | | 3 | 3 | | | C | Pre-requisite: (ELE1301 and ELE1502 and ELE1801) or Students must be enrolled in one of the following Program s: GDNS or MENS |
| ELE2913 Electrical and Electronic Practice C | | | 4 | 2 | | | C | Pre-requisite: (ELE1301 and ELE1502 and ELE1801) or Students must be enrolled in one of the following Program s: GDNS or MENS |
| ELE3914 Electrical and Electronic Practice D | | | 5 | 2 | | | C | Pre-requisite: (ELE1801 and ELE1301 and ELE1502) or Students must be enrolled in one of the following Program s: MENS or MEPR |
| MEC3905 Mechatronic Practice | | | 6 | 2 | | | C | |
| ENG3902 Professional Practice 1 | | | 7 | 2 | | | C | Pre-requisite: Students must be enrolled in one of the following Programs: BCNH or BCON or BEBB or BEBC or BEHB or BEHI or BEHS or BENG or BENH or MENS |
| ENG4903 Professional Practice 2 * | | | 8 | 2 | | | C | Pre-requisite: ENG3902 and Students must be enrolled in one of the following Program s: BCNH or BCON or BEBB or BEBC or BEHB or BEHI or BEHS or BENG or BENH or MENS. Students cannot enrol in ENG3902 and ENG4903 in the same semester. |
| ENG4909 Work Experience - Professional | | | 8 | 1,3 | | | | |
| Electives (Select from the following) | | | | | | | | |
| CIV1501 Engineering Statics | | | | 2,3 | | | | Pre-requisite: ENM1600 or (ENM1500 and CIV1500) or Students must be enrolled in one of the following Program s: MEPR or GCEN or GEPR |
| ELE3107 Signal Processing | | | | 2 | | | | |
| ELE3305 Computer Systems and Communications Protocols | | | | 1 | | | | |
| ELE3805 Power Electronics Principles and Applications | | | | 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 |
| ELE3807 Power Systems Analysis | | | | 1 | | | | |
| MEC3204 Production Engineering | | | | 2 | | | | |
| MEC4103 Heat Transfer | | | | 1 | | | | Pre-requisite: MEC3102 or Students must be enrolled in |

| Major study: Instrumentation and Control Engineering (Major Study Code: 12019) | | | | | | | | |
|--|--|-----|----------------|-----|--------------|-----|--|------------------------|
| Course | Year of program and semester in which course is normally studied | | | | | | Residential school | Enrolment requirements |
| | On-campus (ONC) | | External (EXT) | | Online (ONL) | | | |
| | Year | Sem | Year | Sem | Year | Sem | | |
| | | | | | | | one of the following Program s: GCEN or METC or MEPR or MENS | |
| ELE3804 Power Systems Protection | | | | 1 | | | Pre-requisite: ELE1801 or S tudents must be enrolled in one of the following Program s: GCEN or METC or MEPR or GCNS or GDNS or MENS | |

Footnotes

- > Offered Odd Years Only
- † The semester 3 offering of this course is offered in odd numbered years only.
- ‡ The semester 3 offering of this course is offered in even numbered years only.
- * Students need to enrol in [ENG4909 Work Experience - Professional](#) to record their relevant work experience.

Mechanical Engineering Major recommended enrolment pattern

Students are able to enrol in any offered mode of a course (on-campus, external or online), regardless of the program mode of study they enrolled in.

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

| Major study: Mechanical Engineering (Major Study Code: 12021) | | | | | | | | |
|--|--|-----|----------------|-------|--------------|-----|--|------------------------|
| Course | Year of program and semester in which course is normally studied | | | | | | Residential school | Enrolment requirements |
| | On-campus (ONC) | | External (EXT) | | Online (ONL) | | | |
| | Year | Sem | Year | Sem | Year | Sem | | |
| Academic Courses | | | | | | | | |
| ENG1002 Introduction to Engineering and Built Environment Applications | 1 | 1,2 | 1 | 1,2 | | | | |
| ENG1101 | 1 | 1 | 1 | 1,2 | | | | |
| ENM1600 Engineering Mathematics | 1 | 1 | 2 | 1,2 | | | | |
| ENG1100 Introduction to Engineering Design | 1 | 1 | 2 | 1,2 | | | | |
| MEC1201 Engineering Materials | 1 | 2 | 1 | 1,2,3 | | | | |
| ENG2102 | 1 | 2 | 1 | 2,3 | | | | |
| CIV1501 Engineering Statics | 1 | 2 | 2 | 2,3 | | | Pre-requisite: ENM1600 or (ENM1500 and CIV1500) or Students must be enrolled in one of the following Program s: MEPR or GCEN or GEPR | |
| MEC2304 Solid Modelling | 1 | 2 | 2 | 2 | | | | |
| MEC2101 | 2 | 1 | 3 | 1 | | | | |
| ENM2600 Advanced Engineering Mathematics | 2 | 1 | 3 | 1 | | | Pre-requisite: ENM1600 or Students must be enrolled in one of the following Program s: GCEN or METC or MENS or GDNS or MEPR or MSCN | |
| MEC2402 Stress Analysis | 2 | 1 | 4 | 1 | | | Pre-requisite: CIV1501 or S tudents must be enrolled in one of the following Program s: GCEN or METC or MEPR or GCNS or GDNS or MENS or GEPR | |

| Major study: Mechanical Engineering (Major Study Code: 12021) | | | | | | | | |
|--|--|-----|----------------|-------|--------------|-----|---|------------------------|
| Course | Year of program and semester in which course is normally studied | | | | | | Residential school | Enrolment requirements |
| | On-campus (ONC) | | External (EXT) | | Online (ONL) | | | |
| | Year | Sem | Year | Sem | Year | Sem | | |
| ENG2002 Technology, Sustainability and Society | 2 | 1 | 4 | 1,2,3 | | | | |
| ENG3104 Engineering Simulations and Computations | 2 | 2 | 3 | 2 | | | Pre-requisite: (ENM2600 or MAT2100 or MAT2500) or S students must be enrolled in one of the following Programs: GDET or METC or GDNS or MENS | |
| Elective (Select from the Electives list) | 2 | 2 | 3 | 2 | | | | |
| MEC2401 Dynamics I | 2 | 2 | 4 | 2 | | | Pre-requisite: ((MAT1502 or MAT1102 or ENM1600) and CIV1501) or Students must be enrolled in one of the following Programs: GCEN or GCNS or METC or MEPR or MENS or GEPR | |
| MEC2301 Design of Machine Elements | 2 | 2 | 4 | 2 | | | Pre-requisite: (MEC2402 and ENG1100) or Students must be enrolled in one of the following Programs: MEPR or GCEN or GEPR | |
| MEC3203 Materials Technology | 3 | 1 | 5 | 1 | | | Pre-requisite: MEC1201 or Students must be enrolled in one of the following Programs: GCEN or METC or GCNS or GDNS or MEPR or MENS | |
| MEC2202 Manufacturing Processes | 3 | 1 | 5 | 1 | | | Pre-requisite: MEC1201 or Students must be enrolled in one of the following Programs: MEPR or GCEN | |
| MEC3102 Fluid Mechanics | 3 | 1 | 6 | 1 | | | Pre-requisite: ((MAT2500 or ENM2600) and MEC2101) or Students must be enrolled in one of the following Programs: GCEN or METC or MEPR or GCNS or GDNS or MENS | |
| MEC3302 Computational Mechanics in Design | 3 | 1 | 6 | 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 | |
| ENG4110 Engineering Research Methodology | 3 | 2 | 7 | 2 | | | | |
| MEC3303 Mechanical and Mechatronic System Design | 3 | 2 | 5 | 2 | | | Pre-requisite: MEC2301 or Students must be enrolled in one of the following Programs: GCEN or METC or GCNS or GDNS or MEPR or MENS | |
| ELE1801 Electrical Technology | 3 | 2 | 6 | 2,3 | | | Pre-requisite: ENM1500 or ENM1600 or Students must be enrolled in one of the following Programs: MEPR or GCEN or GEPR | |
| MEC3204 Production Engineering | 3 | 2 | 6 | 2 | | | | |
| MEC4103 Heat Transfer | 4 | 1 | 7 | 1 | | | Pre-requisite: MEC3102 or Students must be enrolled in one of the following Program | |

| Major study: Mechanical Engineering (Major Study Code: 12021) | | | | | | | | | |
|---|--|-----|----------------|-----|--------------|-----|--------------------|---|--|
| Course | Year of program and semester in which course is normally studied | | | | | | Residential school | Enrolment requirements | |
| | On-campus (ONC) | | External (EXT) | | Online (ONL) | | | | |
| | Year | Sem | Year | Sem | Year | Sem | | | |
| | | | | | | | | s: GCEN or METC or MEPR or MENS | |
| ENG3003 Engineering Management [†] | 4 | 1 | 7 | 1,3 | | | | | |
| ENG4111 Research Project Part 1 | 4 | 1 | 8 | 1 | | | | Pre-requisite: ENG3902 and ENG4110 and Students must be enrolled in one of the following Programs: BCNH or BCON or BEBB or BEBC or BEHB or BEHI or BEHS or BENG or BENH | |
| Elective (Select from the Electives list) | 4 | 2 | 5 | 2,3 | | | | | |
| Elective (Select from the Electives list) | 4 | 1 | 8 | 1 | | | | | |
| MEC3403 Dynamics II | 4 | 2 | 7 | 2 | | | | Pre-requisite: (MEC2401 and (MAT2500 or ENM2600)) or Students must be enrolled in one of the following Programs: GCEN or MEPR or GCNS or GDNS | |
| ENG4112 Research Project Part 2 | 4 | 2 | 8 | 2 | | | | Pre-requisite: ENG4111 and Students must be enrolled in one of the following Programs: BCNH or BCON or BEBB or BEBC or BEHB or BEHI or BEHS or BENG or BENH | |
| Elective (Select from the Electives list) | 4 | 2 | 8 | 2 | | | | | |
| Practice Courses | | | | | | | | | |
| ENG1901 Engineering Practice 1 | 1 | 1,2 | 2 | 2,3 | | | C | | |
| MEC2901 Mechanical Practice 1 | 2 | 1 | 3 | 3 | | | C | | |
| MEC2902 Mechanical Practice 2 | 2 | 1 | 4 | 1 | | | C | | |
| MEC3903 Mechanical Practice 3 | 3 | 2 | 5 | 2 | | | C | | |
| MEC3904 Mechanical Practice 4 | 4 | 2 | 6 | 2 | | | C | Pre-requisite: MEC3102 or MEC2106 or Students must be enrolled in one of the following Programs: GDNS or MENS or MEPR | |
| ENG3902 Professional Practice 1 | 3 | 2 | 7 | 2 | | | C | Pre-requisite: Students must be enrolled in one of the following Programs: BCNH or BCON or BEBB or BEBC or BEHB or BEHI or BEHS or BENG or BENH or MENS | |
| ENG4903 Professional Practice 2 [*] | 4 | 1 | 8 | 2 | | | C | Pre-requisite: ENG3902 and Students must be enrolled in one of the following Programs: BCNH or BCON or BEBB or BEBC or BEHB or BEHI or BEHS or BENG or BENH or MENS. Students cannot enrol in ENG3902 and ENG4903 in the same semester. | |
| ENG4909 Work Experience - Professional [^] | 4 | | 8 | 1,3 | | | | | |
| Electives (Select from the following) | | | | | | | | | |
| AGR2302 Agricultural Machinery | | 1 | | 1 | | | | | |

| Major study: Mechanical Engineering (Major Study Code: 12021) | | | | | | | | |
|--|--|-----|----------------|-----|--------------|-----|--|------------------------|
| Course | Year of program and semester in which course is normally studied | | | | | | Residential school | Enrolment requirements |
| | On-campus (ONC) | | External (EXT) | | Online (ONL) | | | |
| | Year | Sem | Year | Sem | Year | Sem | | |
| CIV2503 Structural Design I | | 2 | | 2 | | | Pre-requisite: ENG1100 and MEC2402 or (ENG1100 and CIV1501 for students enrolled in one of the following: BETC Infrastructure Management major or BENS Infrastructure Management Engineering major) or Students must be enrolled in: GCEN or GEPR | |
| ELE3105 Computer Controlled Systems | | 1 | | 1 | | | Pre-requisite: ELE2103 or Students must be enrolled in one of the following Programs: GCNS or GCEN or GDNS or MEPR or MENS or METC or GEPR | |
| MEC4406 Robotics and Machine Vision | | 2 | | 2 | | | Pre-requisite: MEC2401 or ELE2103 or Students must be enrolled in one of the following Programs: MENS or GCEN | |
| ENV4204 Environmental Technology | | 1 | | 1 | | | Pre-requisite: ENV2105 or Students must be enrolled in one of the following Programs: PDEV or GCEN or METC or MEPR or GCNS or GDNS or MENS | |
| MEC4104 Renewable Energy Technology | | 1 | | 1 | | | 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 | |
| ENG4004 Engineering Project and Operations Management [†] | | 2,3 | | 2,3 | | | | |
| ELE2103 Linear Systems and Control | | 2 | | 2 | | | | |
| CIV8803 Advanced Mechanics and Technology of Fibre Composites | | | | | | 1 | Pre-requisite: CIV3506 or MEC3203 or Students must be enrolled in one of the following Programs: GCEN or PGCN or METC or MEPR or GCNS or GDNS or MENS or MENC or MAEN | |

Footnotes

- † The semester 3 offering of this course is offered in odd numbered years only.
- * Students need to enrol in [ENG4909 Work Experience - Professional](#) to record their relevant work experience.
- ^ On-campus students should enrol in the external mode.
- ‡ The semester 3 offering of this course is offered in even numbered years only.

Mechatronic Engineering Major recommended enrolment pattern

Students are able to enrol in any offered mode of a course (on-campus, external or online), regardless of the program mode of study they enrolled in.

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

for our Toowoomba campus. Students following a non-standard enrolment pattern should consult the [course specification](#) to ascertain if a course is offered in another term.

| Major study: Mechatronic Engineering (Major Study Code: 12022) | | | | | | | | |
|--|--|-----|----------------|-------|--------------|-----|--------------------|---|
| Course | Year of program and semester in which course is normally studied | | | | | | Residential school | Enrolment requirements |
| | On-campus (ONC) | | External (EXT) | | Online (ONL) | | | |
| | Year | Sem | Year | Sem | Year | Sem | | |
| Academic Courses | | | | | | | | |
| ENM1600 Engineering Mathematics | 1 | 1 | 1 | 1,2 | | | | |
| ENG1101 | 1 | 1 | 1 | 1,2 | | | | |
| ENG1002 Introduction to Engineering and Built Environment Applications | 1 | 1,2 | 2 | 1,2 | | | | |
| ENG1100 Introduction to Engineering Design | 1 | 1 | 2 | 1,2 | | | | |
| ELE1801 Electrical Technology | 1 | 2 | 1 | 2,3 | | | | Pre-requisite: ENM1500 or ENM1600 or Students must be enrolled in one of the following Programs: MEPR or GCEN or GEPR |
| ENG2102 | 1 | 2 | 1 | 2,3 | | | | |
| CIV1501 Engineering Statics | 1 | 2 | 2 | 2,3 | | | | Pre-requisite: ENM1600 or (ENM1500 and CIV1500) or Students must be enrolled in one of the following Programs: MEPR or GCEN or GEPR |
| MEC2304 Solid Modelling | 1 | 2 | 2 | 2 | | | | |
| ELE1301 Computer Engineering | 2 | 1 | 3 | 1 | | | | |
| ENM2600 Advanced Engineering Mathematics | 2 | 1 | 3 | 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 |
| MEC2402 Stress Analysis | 2 | 1 | 4 | 1 | | | | Pre-requisite: CIV1501 or Students must be enrolled in one of the following Programs: GCEN or METC or MEPR or GCNS or GDNS or MENS or GEPR |
| MEC1201 Engineering Materials | 2 | 1 | 4 | 1,2,3 | | | | |
| ENG3104 Engineering Simulations and Computations | 2 | 2 | 3 | 2 | | | | Pre-requisite: (ENM2600 or MAT2100 or MAT2500) or Students must be enrolled in one of the following Programs: GDET or METC or GDNS or MENS |
| Elective (Select from the Electives list) | 2 | 2 | 3 | 2 | | | | |
| MEC2301 Design of Machine Elements | 2 | 2 | 4 | 2 | | | | Pre-requisite: (MEC2402 and ENG1100) or Students must be enrolled in one of the following Programs: MEPR or GCEN or GEPR |
| MEC2401 Dynamics I | 2 | 2 | 4 | 2 | | | | Pre-requisite: ((MAT1502 or MAT1102 or ENM1600) and CIV1501) or Students must be enrolled in one of the following Programs: GCEN or GCNS or METC or MEPR or MENS or GEPR |
| ENG2002 Technology, Sustainability and Society | 3 | 1 | 5 | 1,2,3 | | | | |

| Major study: Mechatronic Engineering (Major Study Code: 12022) | | | | | | | | |
|---|--|-----|----------------|-----|--------------|-----|--------------------|--|
| Course | Year of program and semester in which course is normally studied | | | | | | Residential school | Enrolment requirements |
| | On-campus (ONC) | | External (EXT) | | Online (ONL) | | | |
| | Year | Sem | Year | Sem | Year | Sem | | |
| MEC3302 Computational Mechanics in Design | 3 | 1 | 5 | 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 |
| MEC2202 Manufacturing Processes | 3 | 1 | 6 | 1 | | | | Pre-requisite: MEC1201 or Students must be enrolled in one of the following Programs: MEPR or GCEN |
| Elective (Select from Electives list) | 3 | 1 | 6 | 1 | | | | |
| ENG4110 Engineering Research Methodology | 3 | 2 | 7 | 2 | | | | |
| ELE1502 Electronic Circuits | 3 | 2 | 5 | 2 | | | | |
| ELE2103 Linear Systems and Control | 3 | 2 | 6 | 2 | | | | |
| MEC3303 Mechanical and Mechatronic System Design | 3 | 2 | 6 | 2 | | | | Pre-requisite: MEC2301 or Students must be enrolled in one of the following Programs: GCEN or METC or GCNS or GDNS or MEPR or MENS |
| ENG3003 Engineering Management [†] | 4 | 1 | 7 | 1,3 | | | | |
| ELE2303 Embedded Systems Design | 4 | 1 | 7 | 1 | | | | |
| ENG4111 Research Project Part 1 | 4 | 1 | 8 | 1 | | | | Pre-requisite: ENG3902 and ENG4110 and Students must be enrolled in one of the following Programs: BCNH or BCON or BEBB or BEBC or BEHB or BEHI or BEHS or BENG or BENH |
| Elective (Select from the Electives list) | 4 | 1 | 8 | 1 | | | | |
| Elective (Select from the Electives list) | 4 | 2 | 5 | 2 | | | | |
| ELE2504 Electronic Design and Analysis | 4 | 2 | 7 | 2 | | | | Pre-requisite: ELE1502 or Students must be enrolled in one of the following Programs: MEPR or GDNS or MENS or GCNS or GCEN or GEPR |
| MEC4406 Robotics and Machine Vision | 4 | 2 | 8 | 2 | | | | Pre-requisite: MEC2401 or ELE2103 or Students must be enrolled in one of the following Programs: MENS or GCEN |
| ENG4112 Research Project Part 2 | 4 | 2 | 8 | 2 | | | | Pre-requisite: ENG4111 and Students must be enrolled in one of the following Programs: BCNH or BCON or BEBB or BEBC or BEHB or BEHI or BEHS or BENG or BENH |
| Practice Courses | | | | | | | | |
| ENG1901 Engineering Practice 1 | 1 | 1,2 | 2 | 2,3 | | | | C |
| ELE1911 Electrical and Electronic Practice A [#] | 1 | 2 | 5 | 3 | | | | C |
| MEC2901 Mechanical Practice 1 | 3 | 1 | 4 | 3 | | | | C |
| MEC2902 Mechanical Practice 2 | 2 | 1 | 5 | 1 | | | | C |
| MEC3905 Mechatronic Practice [^] | 3 | | 6 | 2 | | | | C |

| Major study: Mechatronic Engineering (Major Study Code: 12022) | | | | | | | | |
|---|--|-----|----------------|-----|--------------|-----|--------------------|---|
| Course | Year of program and semester in which course is normally studied | | | | | | Residential school | Enrolment requirements |
| | On-campus (ONC) | | External (EXT) | | Online (ONL) | | | |
| | Year | Sem | Year | Sem | Year | Sem | | |
| ENG3902 Professional Practice 1 | 3 | 2 | 7 | 2 | | | C | Pre-requisite: Students must be enrolled in one of the following Programs: BCNH or BCON or BEBB or BEBC or BEHB or BEHI or BEHS or BENG or BENH or MENS |
| ENG4903 Professional Practice 2 * | 4 | 1 | 8 | 2 | | | C | Pre-requisite: ENG3902 and Students must be enrolled in one of the following Programs: BCNH or BCON or BEBB or BEBC or BEHB or BEHI or BEHS or BENG or BENH or MENS. Students cannot enrol in ENG3902 and ENG4903 in the same semester. |
| ENG4909 Work Experience - Professional ^ | 4 | | 8 | 1,3 | | | | |
| Electives (Select from the following) | | | | | | | | |
| ELE3105 Computer Controlled Systems | | 1 | | 1 | | | | Pre-requisite: ELE2103 or Students must be enrolled in one of the following Programs: GCNS or GCEN or GDNS or MEPR or MENS or METC or GEPR |
| ENG4004 Engineering Project and Operations Management † | | 2,3 | | 2,3 | | | | |
| ELE3305 Computer Systems and Communications Protocols | | 1 | | 1 | | | | |
| ELE3506 Electronic Measurement | | 2 | | 2 | | | | Pre-requisite: (ELE1502 and (ELE2101 or ELE2103)) and (ELE2503 or ELE2504)) or Students must be enrolled in one of the following Programs: GCEN or METC or MEPR or MENS |
| MEC2101 | | 1 | | 1 | | | | |
| MEC3102 Fluid Mechanics | | 1 | | 1 | | | | Pre-requisite: ((MAT2500 or ENM2600)) and MEC2101 or Students must be enrolled in one of the following Programs: GCEN or METC or MEPR or GCNS or GDNS or MENS |
| MEC3203 Materials Technology | | 1 | | 1 | | | | Pre-requisite: MEC1201 or Students must be enrolled in one of the following Programs: GCEN or METC or GCNS or GDNS or MEPR or MENS |
| MEC3204 Production Engineering | | 2 | | 2 | | | | |
| MEC3403 Dynamics II | | 2 | | 2 | | | | Pre-requisite: (MEC2401 and (MAT2500 or ENM2600)) or Students must be enrolled in one of the following Programs: GCEN or MEPR or GCNS or GDNS |
| MEC4104 Renewable Energy Technology | | 1 | | 1 | | | | Pre-requisite: ((MEC2101 and MEC3102) or MEC2106) |

| Major study: Mechatronic Engineering (Major Study Code: 12022) | | | | | | | | |
|--|--|-----|----------------|-----|--------------|-----|---|------------------------|
| Course | Year of program and semester in which course is normally studied | | | | | | Residential school | Enrolment requirements |
| | On-campus (ONC) | | External (EXT) | | Online (ONL) | | | |
| | Year | Sem | Year | Sem | Year | Sem | | |
| | | | | | | | or Students must be enrolled in one of the following Programs: GCEN or GCNS or GDNS or METC or MENS or MEPR | |

Footnotes

- † The semester 3 offering of this course is offered in odd numbered years only.
- # On-campus students should not be confused by the recommended pre/co-requisites for this course and should enrol in Year 1 Semester 1. This Practice course, comprising a number of modules, is undertaken throughout the program. These modules will be undertaken in combination with the relevant academic course work in the prescribed semester.
- ^ On-campus students should enrol in the external mode.
- * Students need to enrol in [ENG4909 Work Experience - Professional](#) to record their relevant work experience.
- ‡ The semester 3 offering of this course is offered in even numbered years only.

Power Engineering Major recommended enrolment pattern

Students are able to enrol in any offered mode of a course (on-campus, external or online), regardless of the program mode of study they enrolled in.

Students who have been granted an exemption from [ELE1801 Electrical Technology](#) are strongly advised to purchase the [ELE1801](#) study guide from the [USQ Bookshop](#) and work through this prior to attempting courses for which [ELE1801](#) is an enrolment requirement.

| Major study: Power Engineering (Major Study Code:15932) | | | | | | | | |
|--|--|-----|----------------|-------|--------------|-----|---|------------------------|
| Course | Year of program and semester in which course is normally studied | | | | | | Residential school | Enrolment requirements |
| | On-campus (ONC) | | External (EXT) | | Online (ONL) | | | |
| | Year | Sem | Year | Sem | Year | Sem | | |
| Academic Courses | | | | | | | | |
| MEC1201 Engineering Materials | 1 | 1 | 1 | 1,2,3 | | | | |
| ENM1600 Engineering Mathematics | 1 | 1 | 2 | 1,2 | | | | |
| ENG1002 Introduction to Engineering and Built Environment Applications | 1 | 1,2 | 1 | 1,2 | | | | |
| ELE1801 Electrical Technology | 1 | 2 | 1 | 2,3 | | | Pre-requisite: ENM1500 or ENM1600 or Students must be enrolled in one of the following Programs: MEPR or GCEN or GEPR | |
| ENG1101 | 1 | 1 | 2 | 1,2 | | | | |
| ELE1301 Computer Engineering | 1 | 1 | 2 | 1 | | | | |
| ENG2102 | 1 | 2 | 2 | 2,3 | | | | |
| ELE1502 Electronic Circuits | 1 | 2 | 2 | 2 | | | | |
| ENM2600 Advanced Engineering Mathematics | 2 | 1 | 3 | 1 | | | Pre-requisite: ENM1600 or Students must be enrolled in one of the following Programs: GCEN or METC or MENS or GDNS or MEPR or MSCN | |
| ELE2303 Embedded Systems Design | 2 | 1 | 3 | 1 | | | | |
| Elective (Select from the Electives list) | 2 | 2 | 3 | 2 | | | | |
| ELE2103 Linear Systems and Control | 2 | 2 | 3 | 2 | | | | |
| ENG1100 Introduction to Engineering Design | 2 | 1 | 4 | 1,2 | | | | |
| Elective (Select from the Electives list) | 2 | 1 | 4 | 1 | | | | |
| ENG3104 Engineering Simulations and Computations | 2 | 2 | 4 | 2 | | | Pre-requisite: (ENM2600 or MAT2100 or MAT2500) or Students must be enrolled in | |

| Major study: Power Engineering (Major Study Code:15932) | | | | | | | | |
|---|--|-----|----------------|-------|--------------|-----|---|------------------------|
| Course | Year of program and semester in which course is normally studied | | | | | | Residential school | Enrolment requirements |
| | On-campus (ONC) | | External (EXT) | | Online (ONL) | | | |
| | Year | Sem | Year | Sem | Year | Sem | | |
| | | | | | | | one of the following Programs: GDET or METC or GDNS or MENS | |
| Elective (Select from the Electives list) | 2 | 2 | 4 | 2 | | | | |
| ENG2002 Technology, Sustainability and Society | 3 | 1 | 5 | 1,2,3 | | | | |
| ELE3803 Electrical Plant | 3 | 1 | 5 | 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 or GEPR | |
| ELE2504 Electronic Design and Analysis | 3 | 2 | 6 | 2 | | | Pre-requisite: ELE1502 or Students must be enrolled in one of the following Programs: MEPR or GDNS or MENS or GCNS or GCEN or GEPR | |
| ELE3805 Power Electronics Principles and Applications | 3 | 2 | 5 | 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 | |
| ELE3305 Computer Systems and Communications Protocols | 3 | 1 | 5 | 1 | | | | |
| ELE3105 Computer Controlled Systems | 3 | 1 | 6 | 1 | | | Pre-requisite: ELE2103 or Students must be enrolled in one of the following Programs: GCNS or GCEN or GDNS or MEPR or MENS or METC or GEPR | |
| ENG4110 Engineering Research Methodology | 3 | 2 | 7 | 2 | | | | |
| Elective (Select from the Electives list) | 3 | 2 | 6 | 1 | | | | |
| ELE3807 Power Systems Analysis | 4 | 1 | 7 | 1 | | | | |
| ELE3804 Power Systems Protection | 4 | 1 | 7 | 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 | |
| ENG3003 Engineering Management [†] | 4 | 1 | 8 | 1,3 | | | | |
| ENG4111 Research Project Part 1 | 4 | 1 | 8 | 1 | | | Pre-requisite: ENG3902 and ENG4110 and Students must be enrolled in one of the following Programs: BCNH or BCON or BEBB or BEBC or BEHB or BEHI or BEHS or BENG or BENH | |
| ELE2704 Electricity Supply Systems | 4 | 2 | 7 | 2 | | | Pre-requisite: ELE1801 or Students must be enrolled in one of the following Programs: MEPR or GCEN or METC or GEPR | |
| Elective (Select from the Electives list) | 4 | 2 | 6 | 2 | | | | |
| ENG4112 Research Project Part 2 | 4 | 2 | 8 | 2 | | | Pre-requisite: ENG4111 and Students must be enrolled in one of the following Program | |

| Major study: Power Engineering (Major Study Code:15932) | | | | | | | | |
|---|--|-----|----------------|-----|--------------|-----|--------------------|--|
| Course | Year of program and semester in which course is normally studied | | | | | | Residential school | Enrolment requirements |
| | On-campus (ONC) | | External (EXT) | | Online (ONL) | | | |
| | Year | Sem | Year | Sem | Year | Sem | | |
| | | | | | | | | s: BCNH or BCON or BEBB or BEBC or BEHB or BEHI or BEHS or BENG or BENH |
| ENG4004 Engineering Project and Operations Management[‡] | 4 | 2 | 8 | 2,3 | | | | |
| Practice Courses | | | | | | | | |
| ENG1901 Engineering Practice 1 | 1 | 1,2 | 1 | 2,3 | | | C | |
| ELE1911 Electrical and Electronic Practice A | 1 | 2 | 2 | 3 | | | C | |
| ELE2912 Electrical and Electronic Practice B | 2 | 1 | 3 | 3 | | | C | Pre-requisite: (ELE1301 and ELE1502 and ELE1801) or Students must be enrolled in one of the following Program s: GDNS or MENS |
| ELE2913 Electrical and Electronic Practice C | 2 | 2 | 4 | 2 | | | C | Pre-requisite: (ELE1301 and ELE1502 and ELE1801) or Students must be enrolled in one of the following Program s: GDNS or MENS |
| ELE3914 Electrical and Electronic Practice D | 3 | 1 | 5 | 2 | | | C | Pre-requisite: (ELE1801 and ELE1301 and ELE1502) or Students must be enrolled in one of the following Program s: MENS or MEPR |
| ELE3915 Electrical and Electronic Practice E | 3 | 2 | 6 | 2 | | | C | Pre-requisite: ELE1801 and ELE1301 and ELE1502 or S tudents must be enrolled in one of the following Program s: MENS or MEPR |
| ENG3902 Professional Practice 1 | 3 | 2 | 7 | 2 | | | C | Pre-requisite: Students must be enrolled in one of the fol lowing Programs: BCNH or BCON or BEBB or BEBC or BEHB or BEHI or BEHS or BENG or BENH or MENS |
| ENG4903 Professional Practice 2[*] | 4 | 1 | 8 | 2 | | | C | Pre-requisite: ENG3902 and Students must be enrolled in one of the following Program s: BCNH or BCON or BEBB or BEBC or BEHB or BEHI or BEHS or BENG or BENH or MENS. Students cannot enrol in ENG3902 and ENG4903 in the same semester. |
| ENG4909 Work Experience - Professional[^] | 4 | | 8 | 1,3 | | | | |
| Electives (Select from the following) | | | | | | | | |
| CIV2605 Construction Engineering | | 1 | | 1 | | | | |
| CIV2403 Geology and Geomechanics | | 2 | | 2 | | | | Pre-requisite: CIV1501 or CIV1500 or Students must be enrolled in one of the follow ing Programs: MENS or G CEN or GEPR |
| GIS1401 Geographic Data Presentation | | 2 | | 2 | | | | |
| GIS1402 Geographic Information Systems | | 1 | | 1,3 | | | | |

| Major study: Power Engineering (Major Study Code:15932) | | | | | | | | |
|---|--|-----|----------------|-----|--------------|-----|--|------------------------|
| Course | Year of program and semester in which course is normally studied | | | | | | Residential school | Enrolment requirements |
| | On-campus (ONC) | | External (EXT) | | Online (ONL) | | | |
| | Year | Sem | Year | Sem | Year | Sem | | |
| ENV2201 Land Studies | | 1 | | 1 | | | | |
| ELE3307 Real Time Systems | | 2 | | 2 | | | Pre-requisite: ELE1301 or S students must be enrolled in one of the following Programs: GCEN or GCNS or METC or MENS or MEPR | |
| ELE3107 Signal Processing | | 2 | | 2 | | | | |
| CIV1501 Engineering Statics | | 2 | | 2,3 | | | Pre-requisite: ENM1600 or (ENM1500 and CIV1500) or Students must be enrolled in one of the following Programs: MEPR or GCEN or GEPR | |
| MEC2106 Introduction to Thermofluids | | 2 | | 2 | | | Pre-requisite: CIV1500 or CIV1501 or Students must be enrolled in one of the following Programs: BENH or BEBC or BEHS or GCEN or MENS or GEPR | |
| MEC4104 Renewable Energy Technology ^{>} | | 1 | | 1 | | | 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 | |

Footnotes

- † The semester 3 offering of this course is offered in odd numbered years only.
- ‡ The semester 3 offering of this course is offered in even numbered years only.
- * Students need to enrol in [ENG4909 Work Experience - Professional](#) to record their relevant work experience.
- ^ On-campus students should enrol in the external mode.
- > Students wishing to study [MEC4104 Renewable Energy Technology](#) should study [CIV1501 Engineering Statics](#) as their second Elective.