

School of Engineering and Technology

CC31 Bachelor of Engineering (Honours) Mechatronics Major

Full Time Study Plan – Term 1 2019 onwards

Year	Unit Code	Unit Name	CP	Requisites	Ad. Stand	Comp Term /Status
Year 1	ENEG11005 *	Fundamentals of Professional Engineering	12			T1 2019
	MATH11218	Applied Mathematics	6	Anti-Req: MATH12223 and MATH12224		T1 2019
	ENEG11006#	Engineering Statics	6			T1 2019
	ENEG11007	Engineering Industry Project Investigation	6	Pre-Req: ENEG11005 or ENEG11001		T2 2019
	ENEG11008 *	Materials for Engineers	6			T2 2019
	ENEG11009* **	Fundamentals of Energy and Electricity	6			T2 2019
	MATH11219#	Applied Calculus	6	Pre-Req: MATH11218 Anti-Req: MATH12223 or MATH12224		T2 2019
Year 2	ENEG12007	Design and Project Management	6	Pre-Req: See CQUni Handbook		T1 2020
	ENEE12014* **	Electrical Circuit Analysis	6	Pre-Req: (PHYS11185 or ENEG11009) and MATH11219		T1 2020
	ENEM12010	Engineering Dynamics	6	Pre-Req: ENEG11006 and MATH11219		T1 2020
	MATH12222	Advanced Mathematical Applications	6	Pre-Req: MATH11219		T1 2020
	ENEX12002	Introductory Electronics	6	Pre-Req: MATH11219 and (ENEG11009 or PHYS11185)		T2 2020
	ENEE12016 *	Signals and Systems	6	Pre-Req: ENEE 12014		T2 2020
	ENEX12001 *	Electrical Power and Machines	6	Pre-Req: (ENEG11009 or PHYS11185) and MATH11218		T2 2020
	MATH12225	Applied Computational Modelling	6	Pre-Req: MATH12222		T2 2020
Year 3	ENEX13004 *	Advanced Dynamics and Robotics	6	Pre-Req: ENEM12010 and MATH12222 and ENEE12016		T1 2021
	ENEX13002 *	Power Electronics	6	Pre-Req: ENEX12002 or (ENEE13018 ENEE13020) and (ENEX12001 or ENEE12015)		T1 2021
	ENEM12009	Structural Mechanics	6	Pre-Req: MATH11219 and (ENEG11006 or ENEM12007) and (ENEG11008 or ENEG12005)		T1 2021
	ENEX13005 *	Machine Design and Vibrations	6	Pre-Req: MATH11219 and (ENEM12007 or ENEM12010)		T1 2021
	ENEE13019 *	Control Systems Analysis and Design	6	Pre-Req: ENEX12002 or ENEE12016		T2 2021
	ENEX13006 *	Thermofluids Theory and Applications	6	Pre-Req: MATH11219 and ENEG11009 and (ENEG11006 or ENEM12007)t		T2 2021
	ENEX13003	Design of Mechatronics Elements	6	Pre-Req: ENEG11005 and ENEM12010		T2 2021
	ENEX13001*	Instrumentation and Industrial Automation	6	Pre-Req: ENEX12002 or (ENEE13018 & ENEE13020) and ENEE12016		T2 2021

STUDY PLAN CONTINUED ON NEXT PAGE

Year	Unit Code	Unit Name	CP	Requisites	Ad. Stand	Comp Term /Status
Year 4	ENEE14006 *	Embedded Microcontrollers	12	Pre-Req: (ENEE13020 and ENEE13018) or ENEX12002		T1 2022
	ENEG14003	Engineering Project Planning	6	Pre-Req: Completion of all prior units in the nominal course structure - to be checked by Head of Course or Unit Coordinator during facilitation of the enrolment process.		T1 2022
		<i>Professional Practice Elective (See Notes on Page 4)</i>	6			T1 2022
	ENEX14001*	Mechatronics Systems Design	12	Pre-Req: ENEX13001 and ENEX13003		T2 2022
	ENEG14005	Engineering Project Implementation	12	Pre-Req: ENEG14003		T2 2022
Total Units: 28			192			

** Available over Term 3

* Compulsory Residential School

Optional Residential School

✓ Completed

CP = Credit Points

For information on the terminology used in the above study plan, please refer to the Glossary on the last page of this document.

MORE DETAILS:

To satisfy the requirements for the award of CC31 Bachelor of Engineering (Honours) (Mechatronics), students must complete 28 units (192 credit points).

Recommended Study Schedule

Students should complete units in an order that is as close as possible to the recommended structure set out in this study plan. Students should concentrate on completing all first year units before moving on to second year units, and all second year units before moving on to third year units.

Course Structure Requirements

In the CC31 Bachelor of Engineering (Honours), students are required to complete the following course structure:

- 7 Core Units
- 20 Major Units
- 1 Professional Practice Elective Unit

Course Duration Requirements

Full Time Duration 4 years full time

Part Time Duration 8 years part time

Please also note that if you fail units or take a Leave of Absence, your course duration and completion timeframe may be extended.

Interim Awards Interim Awards do not exist for this course

Exit Awards Exit Awards do not exist for this course

Professional Accreditation

The Civil, Electrical and Mechanical Majors of the CC31 Bachelor of Engineering (Honours) course are accredited by Engineers Australia as meeting Stage 1 Competency Standard for Professional Engineers.

Deferment/Leave of Absence

Domestic students in the Bachelor of Engineering (Honours) degree are permitted to defer the initial offer of their degree for a maximum of 12 months before their offer is withdrawn. Furthermore, domestic students may also take an approved Leave of Absence (LOA) once they have commenced their course of study however only a maximum of 12 months can be granted without requesting further approval from the Head of Course.

You can apply for a deferment or LOA [here](#).

International students are not permitted to defer their initial offer or take a Leave of Absence unless otherwise discussed with their Home Campus.

Credit Transfer

If you have undertaken study in the last ten years, or have relevant in-formal or non-formal learning, you may be eligible for credit towards your course. Please note that some courses have reduced timeframes within which prior study remains eligible for credit. Please refer to the [CQUni Handbook](#) for specific credit time limits relating to your course.

To submit an application for credit, please refer to the [Credit Calculator](#) or contact the Academic Pathways Team via their email credit@cqu.edu.au. Further information about the credit process can also be found on the [Credit for Prior Learning](#) webpage.

Credit applications should be submitted at least four (4) weeks before the relevant term commences. Applications must be complete with all supporting documentation to be assessed by CQUniversity. CQUniversity cannot obtain documents from other institutions, organisations or individuals.

Residential Schools

Students studying via Distance education may be required to attend compulsory on-campus residential schools and have been marked with an asterisk (*) in the above study plan.

The units that require a compulsory residential school must be enrolled in as “Mixed Mode” under the unit availabilities in MyCentre.

For more information on the various units containing residential schools, please refer to the following link in the CQUni Handbook: <https://handbook.cqu.edu.au/resschools/index> or contact the Unit Coordinator directly.

Unit Coordinator contact information can be found via the Unit Profiles in the following link: <https://my-courses.cqu.edu.au/pub/profiles/search>

Electives

The mechatronics major has one professional practice elective only.

Engineering Professional Practice Electives: (CC31 students must select one unit from the following list):

- ENEP11007 Industry Practice Preparation (T2)
- ENEP12007 Engineering Business Fundamentals (T1)
- ENEP12008 Engineering Supervisor Development (T1)

Undergraduate Level One Unit Codes begin with a “11” (e.g. MRKT11029)

Undergraduate Advanced Level Unit Codes begin with either a “12”, “13”, or “19” (e.g. MGMT19128)

Practicum/Work Integrated Learning (WIL) Requirements

There is a requirement for 12 weeks of industry experience prior to graduation. Students must submit a formal report as per the Engineering Practice document including verification of the type of work undertaken. This is in accordance with current recommendations of the accrediting body, Engineers Australia.

Engineering Practice (Industry Experience) and Report

An integral part of the Bachelor of Engineering course, and a requirement of Engineers Australia for course accreditation, is that each student must gain at least 12 weeks of approved industry experience in an appropriate area of engineering. The student must also submit a report indicating the type of work done, the degree of responsibility involved, the person(s) to whom the student was directly responsible, and the general activities of the employer.

This report must be certified as correct by the employer and submitted by the end of the second week of the term following the vacation period of employment.

Further information regarding the reporting requirements refer to the 'Engineering Practice' document located [here](#)

Note that even if you are working full-time in industry whilst studying, you must still submit a report. However, if you are carrying out appropriate engineering work, you can use your normal employment as the basis of your report.

You should ensure that you submit your report in a timely manner prior to your expected graduation date. You will be assessed for eligibility to graduate immediately following Certification of Grades in your final Term of study. Please allow a 2 week turn-around time for assessment of your report. Failure to meet this deadline may result in a delay to your graduation date.

If you have any questions about your course, please contact the Course Advice Team: spc@cqu.edu.au or by visiting <http://handbook.cqu.edu.au/eforms/index> and filling out the 'Ask a Course Advisor' e-form.

PLEASE CHECK THE CQUNI HANDBOOK FOR ALL TERM AVAILABILITIES AND PRE-REQUISITES AS THEY MAY CHANGE FROM YEAR TO YEAR <http://handbook.cqu.edu.au>

GLOSSARY

- **Course**: A course is the combination of units that contribute towards either a CQUniversity award qualification or non-award study.
- **Course Code**: A course code identifies the specific course a student may be studying at CQUniversity.
- **Unit**: A unit is the individual subject students must complete in order to graduate from their course.
- **Unit Code**: A unit code identifies a specific unit that a student is enrolled in under their course.
- **Pre-Requisite (Pre-Req) Unit**: A pre-req unit is a unit which students must pass before being allowed to enrol in the subsequent unit.
- **Co-Requisite (Co-Req) Unit**: A co-req unit is a unit that must be studied at the same time as another unit.
- **Anti-Requisite (Anti-Req) Unit**: An anti-req unit is an old unit that has been replaced by a new unit and students are not permitted to study the old unit.
- **Credit Points (CP)**: Credit Points are the numerical value of a unit which contributes to the total Credit Points for a course.
- **Core Unit**: A core unit is a compulsory unit that a student must study to meet the requirements of their course.
- **Elective Unit**: An elective unit is a unit within a course that is not compulsory and students may have a choice in what unit they study, provided it meets the elective requirements of their course.
- **Major**: A major is a specific area within a course where a student specialises in and is normally made up of 8 units for undergraduate courses, and 4 units for postgraduate courses. Not all courses have majors.
- **Double Major**: A double major is where students specialise in 2 areas of study and is normally made up of 16 units. Double majors are normally only available in undergraduate courses.
- **Minor**: Like a major, a minor is a specific area within a course where a student specialises and is normally made up of 4 units.
- **Term**: A specified period of time for higher education units in which teaching, learning and assessment occurs. CQUniversity offers 3 Academic Terms per year: Term 1, Term 2 and Term 3.