## School of Engineering and Technology

**CL62 Bachelor of Applied Technology**  
Mechatronics Major  
Full Time Study Plan – Term 1 2019 onwards

<table>
<thead>
<tr>
<th>Year</th>
<th>Unit Code</th>
<th>Unit Name</th>
<th>CP</th>
<th>Requisites</th>
<th>Ad. Stand</th>
<th>Comp Term/Status</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Year 1</strong></td>
<td>ENEG11005 *</td>
<td>Fundamentals of Professional Engineering</td>
<td>12</td>
<td></td>
<td></td>
<td>T1 2019</td>
</tr>
<tr>
<td></td>
<td>ENEG11006 **</td>
<td>Engineering Statics</td>
<td>6</td>
<td></td>
<td></td>
<td>T1 2019</td>
</tr>
<tr>
<td></td>
<td>MATH11218</td>
<td>Applied Mathematics</td>
<td>6</td>
<td>Anti-Req MATH12223 or MATH12224</td>
<td></td>
<td>T1 2019</td>
</tr>
<tr>
<td></td>
<td>ENCL11001</td>
<td>Introduction to Light Vehicle Technology</td>
<td>6</td>
<td>Pre-Req ENEG11005</td>
<td></td>
<td>T2 2019</td>
</tr>
<tr>
<td></td>
<td>ENEG11008 *</td>
<td>Materials for Engineers</td>
<td>6</td>
<td></td>
<td></td>
<td>T2 2019</td>
</tr>
<tr>
<td></td>
<td>ENEG11009 * **</td>
<td>Fundamentals of Energy and Electricity</td>
<td>6</td>
<td></td>
<td></td>
<td>T2 2019</td>
</tr>
<tr>
<td></td>
<td>MATH11219 **</td>
<td>Applied Calculus</td>
<td>6</td>
<td>Anti-Req MATH12223 or MATH12224</td>
<td></td>
<td>T2 2019</td>
</tr>
<tr>
<td><strong>Year 2</strong></td>
<td>ENEG12007</td>
<td>Design and Project Management</td>
<td>6</td>
<td>Pre-Req (ENCL11001) &amp; (ENEG11006 or ENEG11009 or PHYS11184 or PHYS11185) &amp; MATH11218 &amp; ENEG11008</td>
<td></td>
<td>T1 2020</td>
</tr>
<tr>
<td></td>
<td>ENCL11002</td>
<td>Light Vehicle Drive Systems</td>
<td>6</td>
<td>Pre-Req ENCL11001??</td>
<td></td>
<td>T1 2020</td>
</tr>
<tr>
<td></td>
<td>ENEM12009</td>
<td>Structural Mechanics</td>
<td>6</td>
<td>Pre-Req MATH11219 &amp; (ENEG11006 or ENEM12007) &amp; (ENEG11008 or ENEG12005)</td>
<td></td>
<td>T1 2020</td>
</tr>
<tr>
<td></td>
<td>ENEM12010</td>
<td>Engineering Dynamics</td>
<td>6</td>
<td>Pre-Req ENEG11006 &amp; MATH11219</td>
<td></td>
<td>T1 2020</td>
</tr>
<tr>
<td></td>
<td>ENCL11003</td>
<td>Light Vehicle Controls and Monitoring</td>
<td>6</td>
<td>Pre-Req ENCL11001 &amp; ENCL11002</td>
<td></td>
<td>T2 2020</td>
</tr>
<tr>
<td></td>
<td>ENEX12001 *</td>
<td>Electrical Power and Machines</td>
<td>6</td>
<td>Pre-Req (ENEG11009 or PHYS11185) &amp; MATH11218</td>
<td></td>
<td>T2 2020</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Elective (See Notes on Page 3-4)</td>
<td>6</td>
<td></td>
<td></td>
<td>T2 2020</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Elective (See Notes on Page 3-4)</td>
<td>6</td>
<td></td>
<td></td>
<td>T2 2020</td>
</tr>
<tr>
<td><strong>Year 3</strong></td>
<td>ENEX13005 *</td>
<td>Machine Design and Vibrations</td>
<td>6</td>
<td>Pre-Req MATH11219 &amp; (ENEM12007 or ENEM12010)</td>
<td></td>
<td>T1 2021</td>
</tr>
<tr>
<td></td>
<td>ENTG13002</td>
<td>Engineering Technology Project Planning</td>
<td>6</td>
<td>COND: Completion of all prior units in the nominal Course Structure – to be checked by HOC or UC during facilitation of enrolment process</td>
<td></td>
<td>T1 2021</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Advanced Level 2 Elective (See Notes on Page 3-4)</td>
<td>6</td>
<td></td>
<td></td>
<td>T1 2021</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Advanced Level 2 Elective (See Notes on Page 3-4)</td>
<td>6</td>
<td></td>
<td></td>
<td>T1 2021</td>
</tr>
<tr>
<td></td>
<td>ENEX12002</td>
<td>Introductory Electronics</td>
<td>6</td>
<td>Pre-Req (ENEG11009 or PHYS11185) &amp; MATH11219</td>
<td></td>
<td>T2 2021</td>
</tr>
<tr>
<td></td>
<td>ENEX13003</td>
<td>Design of Mechatronics Elements</td>
<td>6</td>
<td>Pre-Req ENEG11005 &amp; ENEM12010</td>
<td></td>
<td>T2 2021</td>
</tr>
<tr>
<td></td>
<td>ENTG13001</td>
<td>Engineering Technology Project Implementation</td>
<td>6</td>
<td></td>
<td></td>
<td>T2 2021</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Advanced Level 3 Elective (See Notes on Page 3-4)</td>
<td>6</td>
<td></td>
<td></td>
<td>T2 2021</td>
</tr>
</tbody>
</table>

**Total Units: 23**  
**144**

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

**Important Note:** This Study Plan has no formal or legal status but is used to assist students in planning their course. Students should refer to the official University database and/or University transcripts to ensure they are meeting course requirements.
MORE DETAILS:

To satisfy the requirements for the award of CL62 Bachelor of Applied Technology (Mechatronics), students must complete 23 units (144 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 CL62 Bachelor of Applied Technology, students are required to complete the following course structure:

- 11 Core Units
- 7 Major Units
- 5 Elective Units

Course Duration Requirements

Full Time Duration 3 years full time
Part Time Duration 6 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

CL42 Diploma of Engineering Studies
CL63 Associate Degree of Applied Technology

Deferment/Leave of Absence

Domestic students in the Bachelor of Applied Technology 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

Students in the CL62 Bachelor of Applied Technology (Mechanical) course must successfully complete a total of 5 Elective units from the below list. Of these 5 Electives, only a MAXIMUM of 2 can be Level 1 Electives, a MAXIMUM of 2 Level 2 Electives with the remaining being Level 3 Electives. Students can determine their Unit Level as outlined below:

- ENEE12016 Signals and Systems (Pre-Req ENEE12014) *(Available Term 2)*
- ENEE13019 Control Systems Analysis and Design (Pre-Req ENEX12002 & ENEE12016) *(Available Term 2)*
- ENEG13001 Humanitarian Engineering Project *(Available Term 2 & 3)*
- ENEM12009 Structural Mechanics (Pre-Req MATH11219, ENEG11006 & ENEG11008) *(Available Term 1)*
- ENEX13002 Power Electronics (Pre-Req ENEX12002 & ENEX12001) *(Available Term 1 & 2)*
- ENEX13003 Design of Mechatronics Elements (Pre-Req ENEG11005 & ENEM12010) *(Available Term 2)*
- ENEX13004 Advanced Dynamics and Robotics (Pre-Req ENEM12010, MATH12222 & ENEE12016) *
  *(Available Term 1)*
- ENEX13005 Machine Design and Vibrations (Pre-Req MATH11219 & ENEM12010) *(Available Term 1)*
- ENEX13006 Thermofluids Theory and Applications (Pre-Req MATH11219, ENEG11009 & ENEG11006) *(Available Term 2)*
- MATH11247 Foundation Mathematics *(Available Term 1)*
  - Please note that this unit can only be done at the commencement of the course, before completing any other MATH unit

Electives continued on next page….
• MATH12222 Advanced Mathematical Applications (Pre-Req MATH11219) (Available Term 1)
• MATH12225 Applied Computational Modelling (Pre-Req MATH12222) * (Available Term 2)
• MGMT13151 Entrepreneurship, Innovation & Start-ups (Available Term 2 & 3)
• MGMT19106 Supply Chain Management (Available Term 1)
• MGMT19126 Operations Management (Available Term 1)

* This unit has a pre-requisite that is an elective.

Undergraduate Level One Unit Codes begin with a “11” (e.g. MATH11247)
Undergraduate Advanced Level Unit Codes begin with either a “12”, “13”, or “19” (e.g. MATH13001)

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.