# Course progression map for 2023 commencing students

This progression map provides advice on the suitable sequencing of units and guidance on how to plan unit enrolment for each semester of study. It should be used in conjunction with the requirements of the course as specified in the Handbook. The map is subject to updates. Update version: 14 July 2023

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## E3001 Bachelor of Engineering (Honours)

### Common first year

#### You do not have VCE Units 3 & 4 Specialist Maths >30 study score and VCE Units 3 & 4 Physics >25 study score: You must enrol in Foundation mathematics (ENG1090) and Foundation physics (PHS1001)

<table>
<thead>
<tr>
<th>Year</th>
<th>Period</th>
<th>Units</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>Sem 1</td>
<td>ENG1012 Engineering design</td>
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<tr>
<td></td>
<td></td>
<td>ENG1013 Engineering smart systems</td>
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<tr>
<td></td>
<td></td>
<td>ENG1005 Engineering mathematics</td>
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<td></td>
<td></td>
<td>ENG1011 Engineering methods</td>
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<tr>
<td></td>
<td></td>
<td>PHS1001 Foundation physics *</td>
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<td></td>
<td></td>
<td>ENG1090 Foundation mathematics</td>
</tr>
</tbody>
</table>

#### You do not have VCE Units 3 & 4 Specialist Maths >30 study score: You must enrol in Foundation mathematics (ENG1090)

<table>
<thead>
<tr>
<th>Year</th>
<th>Period</th>
<th>Units</th>
</tr>
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<tbody>
<tr>
<td>1</td>
<td>Sem 1</td>
<td>ENG1012 Engineering design</td>
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<tr>
<td></td>
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<td>ENG1013 Engineering smart systems</td>
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<tr>
<td></td>
<td></td>
<td>ENG1005 Engineering mathematics</td>
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<tr>
<td></td>
<td></td>
<td>ENG1011 Engineering methods</td>
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<tr>
<td></td>
<td></td>
<td>ENG1014 Engineering numerical analysis</td>
</tr>
</tbody>
</table>

#### You do not have VCE Units 3 & 4 Physics >25 study score: You must enrol in Foundation physics (PHS1001)

<table>
<thead>
<tr>
<th>Year</th>
<th>Period</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Sem 1</td>
<td>ENG1005 Engineering mathematics</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ENG1013 Engineering smart systems</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ENG1090 Foundation mathematics</td>
</tr>
</tbody>
</table>

#### You have completed VCE Units 3 & 4 Physics >25 study score and VCE Units 3 and 4 Specialist Maths >30 study score: No foundation units are required

<table>
<thead>
<tr>
<th>Year</th>
<th>Period</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Sem 1</td>
<td>ENG1013 Engineering smart systems</td>
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<tr>
<td></td>
<td></td>
<td>ENG1005 Engineering mathematics</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ENG1014 Engineering numerical analysis</td>
</tr>
</tbody>
</table>

### NOTE:

- **STUDYING IN MALAYSIA**: If you are studying in the Malaysia campus, please consult your campus website for the Common First Year map.
- * Foundation units: You enrol in the foundation units ENG1090 and/or PHS1001 if you have not completed the Australian VCE (Units 3 & 4) or equivalent Specialist mathematics and/or Physics with the required study score.
- + Biomedical engineering: If you are Clayton-based and planning to specialise in Biomedical engineering, you must take BMS1021 as a First Year elective in Semester 1.
- Each unit requires 12 hours of work per week. A full-time study week totals 48 hours. If you are unable to commit 48 hours of study due to external commitments, please speak with a course advisor about options to study less units per semester or take some units in the summer semester.
- For enrolment advice, please speak with a course advisor in your specialisation. Refer to the Course Advisers webpage if you are in Clayton.
E3001 Bachelor of Engineering (Honours)  

<table>
<thead>
<tr>
<th>Year</th>
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<td>Sem 1</td>
<td>Feb</td>
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<td>Sem 2</td>
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<td>4</td>
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</tbody>
</table>

NOTE:  
- MINORS AND TECHNICAL ELECTIVES LIST is located on the Faculty’s current student course information webpage.  
- Each unit requires 12 hours of work per week. A full-time study week totals 48 hours. If you are unable to commit 48 hours of study due to external commitments, please speak with a course advisor about options to study less units per semester or take some units in the summer semester.  
- If you have completed a unit in First Year (eg MAE2505) that is also a core in your specialisation or if you have completed a unit that is a prohibition to a core unit in your specialisation, you must replace the core with another unit chosen from the aerospace engineering technical electives list or from one of the engineering minors. The replacement unit must be at the same level as the core unit or higher.  
- If you completed a First Year engineering elective which happens to be a core unit in your specialisation, you must replace the core with a unit at the same level or higher from your specialisation technical electives list.  
- The placement of units may be rearranged to support sequencing for double degree courses but care should be taken to ensure sequenced units are maintained in sequence.  
- You are required to complete 420 hours of Continuous Professional Development (CPD) in order to graduate. For further information, refer to the CPD webpage.  
- For enrolment advice, please refer to the Course Advisers webpage.
## E3001 Bachelor of Engineering (Honours)

### Specialisation – Biomedical engineering – Biomedical devices stream

<table>
<thead>
<tr>
<th>Year</th>
<th>Period</th>
<th>Units</th>
<th>Year</th>
<th>Period</th>
<th>Units</th>
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<tbody>
<tr>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Sem 1</td>
<td>Feb</td>
<td>ENG2005 Advanced engineering mathematics</td>
</tr>
<tr>
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<td></td>
<td></td>
<td></td>
<td>ECE2071 Computer organisation and programming</td>
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<td></td>
<td></td>
<td>PHY2011 Neuroscience of communication, sensory and control systems</td>
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<td>MCB2011 Molecular biology and the cell</td>
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<td>Elective</td>
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<td></td>
<td>Sem 2</td>
<td>July</td>
<td>ECE2111 Signals and systems</td>
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<td>CHE2161 Mechanics of fluids</td>
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<td>PHY2042 Human physiology: Cardiovascular, respiratory and renal systems</td>
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<td>MCB2022 The dynamic cell</td>
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<td>Sem 1</td>
<td>Feb</td>
<td>ECE2131 Electrical circuits</td>
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<td>MEC3601 Mechanics for biomedical engineering</td>
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<td>MTE3204 Biomaterials 1</td>
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<td>DEV2011 Early human development from cells to tissues</td>
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<td>Sem 2</td>
<td>July</td>
<td>ECE4179 Neural networks and deep learning</td>
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<td>ECE4087 Medical technology innovation</td>
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<td>MEC3602 Biomedical microsystems</td>
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<td>DEV2022 Human anatomy and development: Tissues and body systems</td>
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<td>3</td>
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<td></td>
<td>Sem 1</td>
<td>Feb</td>
<td>ENG4701 Final year project A</td>
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<td>MEC4601 Implantable devices</td>
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<td>TRC3500 Sensors and artificial perception</td>
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<td>ENG3111 Sensory and cognitive neuroscience</td>
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<td>Sem 2</td>
<td>July</td>
<td>ENG4702 Final year project B</td>
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<td>ENGG105 Biomedical engineering integrated design</td>
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<td>MEC4404 Professional practice</td>
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<td>ECE4081 Medical instrumentation</td>
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</tbody>
</table>

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- If you have completed a unit in First Year that is also a core in your specialisation or if you have completed a unit that is a prohibition to a core unit in your specialisation, you must replace the core with another unit chosen from the electrical and computer systems engineering or materials engineering or mechanical engineering technical electives list or from one of the engineering minors. The replacement unit must be at the same level as the core unit or higher.
- Care should be taken to ensure units are maintained in sequence.
- Engineering minors are not available within the Biomedical engineering specialisation.
- You are required to complete 420 hours of Continuous Professional Development (CPD) in order to graduate. For further information, refer to the CPD webpage.
- For enrolment advice, please refer to the Course Advisers webpage.
## Course progression map for 2023 commencing students

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### E3001 Bachelor of Engineering (Honours)

<table>
<thead>
<tr>
<th>Year</th>
<th>Period</th>
<th>Units</th>
<th>Specialisation – Chemical engineering</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>Sem 1</td>
<td>ENG2005 Advanced engineering mathematics</td>
<td>Common first year</td>
</tr>
<tr>
<td></td>
<td>Feb</td>
<td>CHM1011 Chemistry 1 or CHM1051 Chemistry 1 advanced</td>
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<tr>
<td></td>
<td></td>
<td>CHE2164 Thermodynamics 1</td>
<td>Level 1, 2 or 3 elective or engineering technical elective</td>
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<tr>
<td></td>
<td>Sem 2</td>
<td>CHE2162 Materials and energy balances</td>
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</tr>
<tr>
<td></td>
<td>July</td>
<td>CHE2161 Mechanics of fluids</td>
<td>Level 1, 2 or 3 elective or engineering technical elective</td>
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<tr>
<td>2</td>
<td>Sem 1</td>
<td>CHE3161 Chemistry and chemical thermodynamics</td>
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<tr>
<td></td>
<td>Feb</td>
<td>CHE3165 Separation processes</td>
<td>Engineering minor or level 3 or 4 chemical engineering technical elective</td>
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<tr>
<td></td>
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<td>CHE3167 Transport phenomena and numerical methods</td>
<td>Malaysia students enrol in ENG9002 Industrial training (0 credit points)</td>
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<tr>
<td></td>
<td>Sem 2</td>
<td>CHE3162 Process control</td>
<td>Clayton students enrol in ENG9001 Continuous Professional Development (0 credit points)</td>
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<tr>
<td></td>
<td>July</td>
<td>CHE3164 Reaction engineering</td>
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<td>CHE3166 Process design</td>
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<td>ENG4701 Final year project A</td>
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<tr>
<td></td>
<td>Feb</td>
<td>CHE4162 Particle technology</td>
<td>Engineering minor or level 3, 4 or 5 chemical engineering technical elective</td>
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<td></td>
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<td>CHE4161 Engineer in society</td>
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<td>Sem 2</td>
<td>ENG4702 Final year project B</td>
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<tr>
<td></td>
<td>July</td>
<td>CHE4170 Design project (12 points)</td>
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</tbody>
</table>

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- Each unit requires 12 hours of work per week. A full-time study week totals 48 hours. If you are unable to commit 48 hours of study due to external commitments, please speak with a course advisor about options to study less units per semester or take some units in the summer semester.
- If you have completed a unit in First Year (eg CHM1011 or CHM1051) that is also a core in your specialisation, or if you have completed a unit that is a prohibition to a core unit in your specialisation, you must replace the core with another unit chosen from the chemical engineering technical electives list or from one of the engineering minors. The replacement unit must be at the same level as the core unit or higher.
- The placement of units may be rearranged to support sequencing for double degree courses but care should be taken to ensure sequenced units are maintained in sequence.
- CHE4164 and CHE4165 are integrated industrial project units that are for select students only. The units are undertaken in place of the final year project units ENG4701 and ENG4702. Depending on placement location, you may have to overload a semester or extend an additional semester in order to complete your course.
- CHE4170 - You should not overload in the semester when undertaking this unit.
- Industry 4.0: You are encouraged to select ECE2071, ECE2131 and TRC3500 if you are seeking to broaden your skills needed for the jobs of the future.
- You are required to complete the Continuous Professional Development (if studying in Australia) or Industrial training (if studying in Malaysia) in order to graduate. For enrolment advice, please speak with a course adviser in your specialisation. Refer to the Course Advisers webpage if you are in Clayton.
## Course progression map for 2023 commencing students

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### E3001 Bachelor of Engineering (Honours)

#### Specialisation – Civil engineering

<table>
<thead>
<tr>
<th>Year</th>
<th>Period</th>
<th>Units</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Sem 1 Feb</td>
<td>CIV2206 Structural mechanics</td>
<td>Common first year</td>
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<td>CIV2282 Transport and traffic engineering</td>
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<td>CIV2263 Water systems</td>
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<td>Sem 2 July</td>
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<tr>
<td>2</td>
<td>Sem 1 Feb</td>
<td>ENG2005 Advanced engineering mathematics</td>
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<td>CIV2242 Geomechanics 1</td>
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<td>CIV2235 Structural materials</td>
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<td>Sem 2 July</td>
<td>Level 1, 2 or 3 elective or engineering technical elective</td>
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<td>3</td>
<td>Sem 1 Feb</td>
<td>CIV4286 Project management for civil engineers</td>
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<td>CIV3294 Structural design</td>
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<td>CIV3285 Engineering hydrology</td>
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<td>Malaysia students enrol in ENG0002 Industrial training (0 credit points)</td>
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<td>4</td>
<td>Sem 1 Feb</td>
<td>ENG4701 Final year project A</td>
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<td>CIV4249 Foundation engineering</td>
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<td>CIV4280 Bridge design and assessment</td>
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<td>Clayton students enrol in ENG0001 Continuous Professional Development (0 credit points)</td>
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<td>CIV4212 Civil and environmental engineering practice</td>
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<td>CIV4288 Water treatment</td>
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<td></td>
<td>Engineering minor or level 3, 4 or 5 civil engineering technical elective</td>
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</table>

### NOTES:
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- Each unit requires 12 hours of work per week. A full-time study week totals 48 hours. If you are unable to commit 48 hours of study due to external commitments, please speak with a course advisor about options to study less units per semester or take some units in the summer semester.
- If you have completed a unit in First Year that is also a core in your specialisation, or if you have completed a unit that is a prohibition to a core unit in your specialisation, you must replace the core with another unit chosen from the civil engineering technical electives list or from one of the engineering minors. The replacement unit must be at the same level as the core unit or higher.
- Studying civil engineering specialisation in Malaysia: You must complete ENG1021 to meet Engineering Accreditation Council Malaysia (EAC) requirement for accreditation.
- The placement of units may be rearranged to support sequencing for double degree courses but care should be taken to ensure sequential units are maintained in sequence.
- You are required to complete the Continuous Professional Development (if studying in Australia) or Industrial training (if studying in Malaysia) in order to graduate. For enrolment advice, please speak with a course adviser in your specialisation. Refer to the Course Advisers webpage if you are in Clayton.
Course progression map for 2023 commencing students

This progression map provides advice on the suitable sequencing of units and guidance on how to plan unit enrolment for each semester of study. It should be used in conjunction with the requirements of the course as specified in the Handbook. The map is subject to updates. Update version: 25 July 2022

E3001 Bachelor of Engineering (Honours) Specialisation – Electrical and computer systems engineering

<table>
<thead>
<tr>
<th>Year</th>
<th>Period</th>
<th>Units</th>
<th>Units</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>Sem 1 Feb</td>
<td>ECE2071 Computer organisation and programming</td>
<td>ECE2131 Electrical circuits</td>
<td>ENG2005 Advanced engineering mathematics</td>
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<td>Sem 2 July</td>
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<td>Level 1, 2 or 3 elective or engineering technical elective.</td>
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<tr>
<td>2</td>
<td>Sem 1 Feb</td>
<td>ECE2072 Digital systems</td>
<td>ECE2111 Signals and systems</td>
<td>ECE2191 Probability models in engineering</td>
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<td>Sem 2 July</td>
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<td>Level 1, 2 or 3 elective or engineering technical elective.</td>
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<tr>
<td>3</td>
<td>Sem 1 Feb</td>
<td>ECE3073 Computer systems</td>
<td>ECE3141 Information and networks</td>
<td>ECE3161 Analogue electronics</td>
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<td>Engineering minor or level 3 or 4 ECSE technical elective.</td>
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<td>4</td>
<td>Sem 1 Feb</td>
<td>ENG4701 Final year project A</td>
<td>ECE3051 Electrical energy systems</td>
<td>Level 4 or 5 ECE-coded core elective*</td>
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<td>Engineering minor or level 3, 4 or 5 ECSE technical elective.</td>
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<td>Malaysia students enrol in ENG0002 Industrial training (0 credit points)</td>
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<td>Clayton students enrol in ENG0001 Continuous Professional Development (0 credit points)</td>
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</table>

NOTE:
- MINORS AND TECHNICAL ELECTIVES LIST is located on the Faculty’s current student course information webpage
- Each unit requires 12 hours of work per week. A full-time study week totals 48 hours. If you are unable to commit 48 hours of study due to external commitments, please speak with a course advisor about options to study less units per semester or take some units in the summer semester.
- If you have completed a unit in First Year (e.g., ECE2072) that is also a core in your specialisation, or if you have completed a unit that is a prohibition to a core unit in your specialisation, you must replace the core with another unit chosen from the electrical and computer systems engineering technical electives list or from one of the engineering minors. The replacement unit must be at the same level as the core unit or higher.
- The placement of units may be rearranged to support sequencing for double degree courses but care should be taken to ensure sequenced units are maintained in sequence.
- Studying ECSE specialisation in Malaysia: You must complete ECE4053 to meet Engineering Accreditation Council Malaysia (EAC) requirement for accreditation.
- You are required to complete the Continuous Professional Development (if studying in Australia) or Industrial training (if studying in Malaysia) in order to graduate.
- For enrolment advice, please speak with a course advisor in your specialisation. Refer to the Course Advisers webpage if you are in Clayton.

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Source: Monash University 2023 Handbook - CRICOS Provider Number: 00008C

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## Course Progression Map for 2023 Commencing Students

This progression map provides advice on the suitable sequencing of units and guidance on how to plan unit enrolment for each semester of study. It should be used in conjunction with the requirements of the course as specified in the Handbook. The map is subject to updates. Update version: 25 July 2022

E3001 Bachelor of Engineering (Honours)  
Specialisation – Environmental engineering

<table>
<thead>
<tr>
<th>Year</th>
<th>Period</th>
<th>Units</th>
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</thead>
<tbody>
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</tbody>
</table>

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- If you have completed a unit in First Year that is also a core in your specialisation, or if you have completed a unit that is a prohibition to a core unit in your specialisation, you must replace the core with another unit chosen from the environmental engineering technical electives list or from one of the engineering minors. The replacement unit must be at the same level as the core unit or higher.
- The placement of units may be rearranged to support sequencing for double degree courses but care should be taken to ensure sequenced units are maintained in sequence.
- You are required to complete 420 hours of Continuous Professional Development (CPD) in order to graduate. For further information, refer to the CPD webpage.
- For enrolment advice, please refer to the Course Advisers webpage.

Clayton students enrol in ENG0001 Continuous Professional Development (6 credit points)

Source: Monash University 2023 Handbook - CRICOS Provider Number: 00008C

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# Course progression map for 2023 commencing students

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## E3001 Bachelor of Engineering (Honours)

### Specialisation – Materials engineering

<table>
<thead>
<tr>
<th>Year</th>
<th>Period</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Sem 1 Feb</td>
<td>Common first year</td>
</tr>
<tr>
<td></td>
<td>Sem 2 July</td>
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<tr>
<td>2</td>
<td>Sem 1 Feb</td>
<td>MTE2101 Atomic-scale structure of materials</td>
</tr>
<tr>
<td></td>
<td></td>
<td>MTE2102 Phase equilibria and phase transformations</td>
</tr>
<tr>
<td></td>
<td></td>
<td>MTE2103 Mechanical properties of materials</td>
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<tr>
<td></td>
<td></td>
<td>Level 1, 2 or 3 elective or engineering technical elective</td>
</tr>
<tr>
<td></td>
<td>Sem 2 July</td>
<td>MTE2202 Functional materials 1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>MTE2201 Polymers</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ENG2005 Advanced engineering mathematics</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Level 1, 2 or 3 elective or engineering technical elective</td>
</tr>
<tr>
<td>3</td>
<td>Sem 1 Feb</td>
<td>MTE3103 Materials life cycle</td>
</tr>
<tr>
<td></td>
<td></td>
<td>MTE3102 Plasticity of metals and alloys</td>
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<tr>
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<td>MTE3101 Materials in a complex world 1: People, projects and data</td>
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<tr>
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<td>Engineering minor or level 3 or 4 materials engineering technical elective</td>
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<td>Sem 2 July</td>
<td>MTE3202 Functional materials 2</td>
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<tr>
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<td>MTE3203 Introduction to ceramics: Properties, processing and applications</td>
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<tr>
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<td>MTE3201 Materials in a complex world 2: Characterisation, identification and selection</td>
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<td>Engineering minor or level 3 or 4 materials engineering technical elective</td>
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<tr>
<td>4</td>
<td>Sem 1 Feb</td>
<td>ENG4701 Final year project A</td>
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<td>MTE4102 Advanced materials processing and manufacturing</td>
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<td>MTE4101 Integrated design project</td>
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<td>Engineering minor or level 3, 4 or 5 materials engineering technical elective</td>
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<td></td>
<td>Sem 2 July</td>
<td>Clayton students enrol in ENG0001 Continuous Professional Development (0 credit points)</td>
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<td></td>
<td></td>
<td>ENG4702 Final year project B</td>
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<td>Level 4 or 5 MTE-coded materials engineering core elective</td>
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<td>MTE4201 Materials in a complex world 3: Impact in society</td>
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<td>Engineering minor or level 3, 4 or 5 materials engineering technical elective</td>
</tr>
</tbody>
</table>

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### E3001 Bachelor of Engineering (Honours)

#### Specialisation – Mechanical engineering

<table>
<thead>
<tr>
<th>Year</th>
<th>Period</th>
<th>Units</th>
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<tr>
<td>1</td>
<td>Sem 1</td>
<td>MEC2403 Mechanics of materials</td>
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<td>Feb</td>
<td>MEC2401 Dynamics 1</td>
<td>technical elective</td>
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<td></td>
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<td>MEC2402 Design methods</td>
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<td>Common first year</td>
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</tr>
<tr>
<td></td>
<td>Sem 2</td>
<td>MEC2404 Mechanics of fluids</td>
<td>Engineering minor or level 3 or 4</td>
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<tr>
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<td>July</td>
<td>MEC2405 Thermodynamics</td>
<td>mechanical engineering technical elective</td>
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<tr>
<td>2</td>
<td>Sem 1</td>
<td>ENG2005 Advanced engineering mathematics</td>
<td>Malaysia students enrol in</td>
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<tr>
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<td>Feb</td>
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<td>ENG0002 Industrial training (0 credit</td>
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<td>MEC2404 Mechanics of fluids</td>
<td>points)</td>
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<td>ENG2005 Advanced engineering mathematics</td>
<td>Clayton students enrol in</td>
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<tr>
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<td>July</td>
<td></td>
<td>ENG0001 Continuous Professional Development</td>
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<td></td>
<td>MEC2404 Mechanics of fluids</td>
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<td>MEC2405 Thermodynamics</td>
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<td>3</td>
<td>Sem 1</td>
<td>MEC3455 Solid mechanics</td>
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<td>MEC3451 Fluid mechanics 2</td>
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<td>MEC3456 Engineering computational analysis</td>
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<td>MEC3457 Systems and control</td>
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<td>Sem 2</td>
<td>MEC3459 Solid mechanics</td>
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<td>July</td>
<td>MEC3451 Fluid mechanics 2</td>
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<td></td>
<td>MEC3456 Engineering computational analysis</td>
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<td>MEC3457 Systems and control</td>
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<td>Malaysia students enrol in</td>
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<td>4</td>
<td>Sem 1</td>
<td>ENG4701 Final year project A</td>
<td>Clayton students enrol in</td>
</tr>
<tr>
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<td>Feb</td>
<td>MEC4404 Professional practice</td>
<td>ENG0001 Continuous Professional Development</td>
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<tr>
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<td></td>
<td>MEC4408 Thermodynamics and heat transfer</td>
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<td>Malaysia students enrol in</td>
<td>Clayton students enrol in</td>
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<td>Sem 2</td>
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<td>MEC4407 Design project</td>
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<td>MEC4426 Computer-aided design</td>
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<td>Engineering minor or level 3, 4 or 5 mechanical engineering technical</td>
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<td></td>
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<td>elective</td>
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</table>

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- Studying mechanical engineering specialisation in Malaysia: You must complete MEC3459 to meet the Board of Engineers Malaysia (BEM) requirement for accreditation.
- The placement of units may be rearranged to support sequencing for double degree courses but care should be taken to ensure sequenced units are maintained in sequence.
- You are required to complete the Continuous Professional Development (if studying in Australia) or Industrial training (if studying in Malaysia) in order to graduate.
- For enrolment advice, please speak with a course adviser in your specialisation. Refer to the Course Advisers webpage if you are in Clayton.
E3001 Bachelor of Engineering (Honours) Specialisation – Robotics and mechatronics engineering – *Artificial intelligence stream*

<table>
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<th>Year</th>
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<th>Units</th>
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<tr>
<td>1</td>
<td>Sem 1</td>
<td>ECE2131 Electrical circuits</td>
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<tr>
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<td>Feb</td>
<td>MEC2402 Design methods</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ECE2071 Computer organisation and programming</td>
</tr>
<tr>
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<td></td>
<td>Level 1, 2 or 3 elective or engineering technical elective</td>
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<tr>
<td></td>
<td>Sem 1</td>
<td>ENG2005 Advanced engineering mathematics</td>
</tr>
<tr>
<td></td>
<td>July</td>
<td>TRC2201 Mechanics</td>
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<tr>
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<td>ECE2072 Digital systems</td>
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<td>Level 1, 2 or 3 elective or engineering technical elective</td>
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<td>3</td>
<td>Sem 1</td>
<td>ECE3161 Analogue electronics</td>
</tr>
<tr>
<td></td>
<td>Feb</td>
<td>TRC3200 Dynamical systems</td>
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<tr>
<td></td>
<td></td>
<td>TRC3500 Sensors and artificial perception</td>
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<tr>
<td></td>
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<td>Engineering minor or level 3 or 4 robotics and mechatronics engineering technical elective</td>
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<tr>
<td></td>
<td>Sem 1</td>
<td>TRC3600 Modelling and control</td>
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<tr>
<td></td>
<td>Feb</td>
<td>ECE4078 Intelligent robotics</td>
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<tr>
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<td>ECE4179 Neural networks and deep learning</td>
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<td>Sem 1</td>
<td>ENG4701 Final year project A</td>
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<td>TRC4800 Robotics</td>
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<td>ECE4076 Computer vision</td>
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<td>Sem 1</td>
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<td>Feb</td>
<td>TRC4002 Professional practice</td>
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<td>ECE4191 Engineering integrated design</td>
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<td></td>
<td></td>
<td>Engineering minor or level 3, 4 or 5 robotics and mechatronics engineering technical elective</td>
</tr>
</tbody>
</table>

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- Studying robotics and mechatronics engineering specialisation in Malaysia: You must complete [(ECE3051 or MEC3416) and TRC4802] to meet Engineering Accreditation Council Malaysia (EAC) requirement for accreditation.
- The placement of units may be rearranged to support sequencing for double degree courses but care should be taken to ensure sequenced units are maintained in sequence.
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### E3001 Bachelor of Engineering (Honours) Specialisation – Robotics and mechatronics engineering – Automation stream

<table>
<thead>
<tr>
<th>Year</th>
<th>Period</th>
<th>Units</th>
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<td></td>
<td>Common first year</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sem 1</td>
<td>Feb</td>
<td>ECE2131 Electrical circuits</td>
</tr>
<tr>
<td></td>
<td>Sem 2</td>
<td>July</td>
<td>MEC2402 Design methods</td>
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<td></td>
<td>ECE2071 Computer organisation and programming</td>
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<td></td>
<td>Level 1, 2 or 3 elective or engineering technical elective</td>
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<td>2</td>
<td>Sem 1</td>
<td>Feb</td>
<td>ENG2005 Advanced engineering mathematics</td>
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<td>Sem 2</td>
<td>July</td>
<td>TRC2201 Mechanics</td>
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<td>ECE2072 Digital systems</td>
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<td>Level 1, 2 or 3 elective or engineering technical elective</td>
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<td>3</td>
<td>Sem 1</td>
<td>Feb</td>
<td>ECE3161 Analogue electronics</td>
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<td>Sem 2</td>
<td>July</td>
<td>TRC3200 Dynamical systems</td>
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<td>TRC3500 Sensors and artificial perception</td>
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<td></td>
<td>Engineering minor or level 3 or 4 robotics and mechatronics engineering technical elective</td>
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<td></td>
<td></td>
<td></td>
<td>Malaysia students enrol in ENG0002 Industrial training (0 credit points)</td>
</tr>
<tr>
<td>4</td>
<td>Sem 1</td>
<td>Feb</td>
<td>ENG4701 Final year project A</td>
</tr>
<tr>
<td></td>
<td>Sem 2</td>
<td>July</td>
<td>TRC4800 Robotics</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>TRC4200 Engineering cyber-physical systems</td>
</tr>
<tr>
<td></td>
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<td>Engineering minor or level 3, 4 or 5 robotics and mechatronics engineering technical elective</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Clayton students enrol in ENG0001 Continuous Professional Development (0 credit points)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Malaysia students enrol in TRC4802 Engineering cyber-physical systems</td>
</tr>
<tr>
<td>5</td>
<td></td>
<td></td>
<td>TRC4002 Professional practice</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>TRC4407 Automation design project</td>
</tr>
<tr>
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<td></td>
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<td>Engineering minor or level 3, 4 or 5 robotics and mechatronics engineering technical elective</td>
</tr>
</tbody>
</table>

**NOTE:**
- **MINORS AND TECHNICAL ELECTIVES LIST** is located on the Faculty’s current student course information webpage.
- Each unit requires 12 hours of work per week. A full-time study week totals 48 hours. If you are unable to commit 48 hours of study due to external commitments, please speak with a course advisor about options to study less units per semester or take some units in the summer semester.
- If you have completed a unit in First Year (e.g., ECE2072) that is also a core in your specialisation, or if you have completed a unit that is a prohibition to a core unit in your specialisation, you must replace the core with another unit chosen from the robotics and mechatronics engineering technical electives list or from one of the engineering minors. The replacement unit must be at the same level as the core unit or higher.
- If you have completed a unit in First Year (ECE2085) that is also a core in your specialisation, or if you have completed a unit that is a prohibition to a core unit in your specialisation, you must replace the core with another unit chosen from the robotics and mechatronics engineering technical electives list or from one of the engineering minors. The replacement unit must be at the same level as the core unit or higher.
- **Studying robotics and mechatronics engineering specialisation in Malaysia:** You must complete [(ECE3051 or MEC3416) and TRC4802] to meet Engineering Accreditation Council Malaysia (EAC) requirement for accreditation.
- The placement of units may be rearranged to support sequencing for double degree courses but care should be taken to ensure sequenced units are maintained in sequence.
- You are required to complete the Continuous Professional Development (if studying in Australia) or Industrial training (if studying in Malaysia) in order to graduate.
- For enrolment advice, please speak with a course adviser in your specialisation. Refer to the Course Advisers webpage if you are in Clayton.
Course progression map for 2023 commencing students – March intake

This progression map provides advice on the suitable sequencing of units and guidance on how to plan unit enrolment for each semester of study. It should be used in conjunction with the requirements of the course as specified in the Handbook. The map is subject to updates. Update version: 14 November 2022

E3001 Bachelor of Engineering (Honours)  
Specialisation – Software engineering

<table>
<thead>
<tr>
<th>Year</th>
<th>Period</th>
<th>Units</th>
<th>Specialised Level</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Sem 1</td>
<td>FIT2085 Introduction to computer science for engineers</td>
<td>Level 1, 2 or 3 elective or engineering technical elective</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Sem 1</td>
<td>FIT2004 Algorithms and data structures</td>
<td>Level 1, 2 or 3 elective or engineering technical elective</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Sem 1</td>
<td>FIT3077 Software engineering: Architecture and design</td>
<td>Level 3 or 4 software engineering technical elective</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Sem 1</td>
<td>FIT4002 Software engineering industry experience studio project (12 points)</td>
<td>Level 3, 4 or 5 software engineering technical elective</td>
<td>Clayton students enrol in ENG0001 Continuous Professional Development (0 credit points)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>FIT4702 Final year project B</td>
<td>Level 3, 4 or 5 software engineering technical elective</td>
<td>Clayton students enrol in ENG0001 Continuous Professional Development (0 credit points)</td>
</tr>
</tbody>
</table>

NOTE:
- MINORS AND TECHNICAL ELECTIVES LIST is located on the Faculty’s current student course information webpage.
- Each unit requires 12 hours of work per week. A full-time study week totals 48 hours. If you are unable to commit 48 hours of study due to external commitments, please speak with a course advisor about options to study less units per semester or take some units in the summer semester.
- If you have completed a unit in First Year (e.g. MAT1830 or FIT2085) that is also a core in your specialisation, or if you have completed a unit that is a prohibition to a core unit in your specialisation, you must replace the core with another unit chosen from the software engineering technical electives list. The replacement unit must be at the same level as the core unit or higher.
- The placement of units may be rearranged to support sequencing for double degree courses but care should be taken to ensure sequenced units are maintained in sequence.
- Engineering minors are not available within the Software Engineering specialisation.
- Enrolled in the Industry Based Learning placement program – You will have a different progression map, with your placement in Semester 2 of third year. You will need to overload in one semester or complete a summer semester unit. 
- You are required to complete the Continuous Professional Development (if studying in Australia) or Industrial training (if studying in Malaysia) in order to graduate. For enrolment advice, please speak with a course advisor in your specialisation. Refer to the Course Advisers webpage if you are in Clayton.
### Course progression map for 2023 commencing students – March intake

This progression map provides advice on the suitable sequencing of units and guidance on how to plan unit enrolment for each semester of study. It should be used in conjunction with the requirements of the course as specified in the Handbook. The map is subject to updates. Update version: 14 November 2022

#### E3001 Bachelor of Engineering (Honours)  
**Specialisation – Software engineering – Industry-based Learning**

<table>
<thead>
<tr>
<th>Year</th>
<th>Period</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Sem 1</td>
<td>FIT2085 Introduction to computer science for engineers</td>
</tr>
<tr>
<td></td>
<td>Feb</td>
<td>MAT1830 Discrete mathematics for computer science</td>
</tr>
<tr>
<td></td>
<td></td>
<td>FIT2099 Object-oriented design and implementation</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Level 1, 2 or 3 elective or engineering technical elective</td>
</tr>
<tr>
<td></td>
<td>Sem 2</td>
<td>FIT2101 Software engineering process and management</td>
</tr>
<tr>
<td></td>
<td>July</td>
<td>FIT2004 Algorithms and data structures</td>
</tr>
<tr>
<td></td>
<td></td>
<td>FIT2107 Software quality and testing</td>
</tr>
<tr>
<td></td>
<td></td>
<td>FIT2100 Operating systems</td>
</tr>
<tr>
<td>2</td>
<td>Sem 1</td>
<td>FIT3159 Computer architecture</td>
</tr>
<tr>
<td></td>
<td>Feb</td>
<td>FIT3077 Software engineering: Architecture and design</td>
</tr>
<tr>
<td></td>
<td></td>
<td>FIT3171 Databases</td>
</tr>
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<td></td>
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<td>Level 3 or 4 software engineering technical elective</td>
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<tr>
<td></td>
<td>Sem 2</td>
<td>FIT4042 Industry based learning (18 points)</td>
</tr>
<tr>
<td></td>
<td>July</td>
<td><em>See footnote</em></td>
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<tr>
<td></td>
<td></td>
<td>Malaysia students enrol in ENG0002 Industrial training (0 credit points)</td>
</tr>
<tr>
<td>3</td>
<td>Sem 1</td>
<td>FIT3170 Software engineering practice (12 points)</td>
</tr>
<tr>
<td></td>
<td>Feb</td>
<td>FIT4701 Final year project A</td>
</tr>
<tr>
<td></td>
<td></td>
<td>FIT4165 Computer networks</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Level 3 or 4 software engineering technical elective</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Clayton students enrol in ENG0001 Continuous Professional Development (0 credit points)</td>
</tr>
<tr>
<td></td>
<td>Sem 2</td>
<td>FIT4702 Final year project B</td>
</tr>
<tr>
<td></td>
<td>July</td>
<td>Level 3 or 4 software engineering technical elective</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Level 3, 4 or 5 software engineering technical elective</td>
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- If you have completed a unit in First Year (e.g. MAT1830 or FIT2085) that is also a core in your specialisation, or if you have completed a unit that is a prohibition to a core unit in your specialisation, you must replace the core with another unit chosen from the software engineering technical electives list. The replacement unit must be at the same level as the core unit or higher.
- The placement of units may be rearranged to support sequencing for double degree courses but care should be taken to ensure sequenced units are maintained in sequence.
- Engineering minors are not available within the Software engineering specialisation.
- * Depending on placement location when you undertake FIT4042, you will have to either overload a semester, undertake a summer unit or extend an additional semester in order to complete your course.
- You are required to complete the Continuous Professional Development (if studying in Australia) or Industrial training (if studying in Malaysia) in order to graduate.
- For enrolment advice, please speak with a course advisor in your specialisation. Refer to the Course Advisers webpage if you are in Clayton.