



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 in conjunction with the required units as described in the course 'Requirements' section of the [Handbook](#). Please note that the map is subject to updates. Update version: 14 July 2023

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)

1	Sem 1 Feb	ENG1012 Engineering design	ENG1013 Engineering smart systems	PHS1001 Foundation physics * <i>Corequisite: ENG1090 *</i>	ENG1090 Foundation mathematics
	Sem 2 July	ENG1011 Engineering methods	ENG1005 Engineering mathematics <i>Required: ENG1090 *</i>	ENG1014 Engineering numerical analysis <i>Corequisite: ENG1005</i>	First Year engineering technical elective+

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

1	Sem 1 Feb	ENG1012 Engineering design	ENG1013 Engineering smart systems	ENG1090 Foundation mathematics * <i>Corequisite: ENG1005</i>	First Year engineering technical elective+ <i>Or swap semester with the Elective unit</i>
	Sem 2 July	ENG1011 Engineering methods	ENG1005 Engineering mathematics <i>Required: ENG1090 *</i>	ENG1014 Engineering numerical analysis <i>Corequisite: ENG1005</i>	Elective

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

1	Sem 1 Feb	ENG1005 Engineering mathematics <i>Required: ENG1090 *</i>	ENG1013 Engineering smart systems	PHS1001 Foundation physics * <i>Required: ENG1090 *</i>	First Year engineering technical elective+ <i>Or swap semester with the Elective unit</i>
	Sem 2 July	ENG1011 Engineering methods	ENG1012 Engineering design	ENG1014 Engineering numerical analysis <i>Corequisite: ENG1005</i>	Elective

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

Year	Period	Units			
1	Sem 1 Feb	ENG1013 Engineering smart systems	ENG1005 Engineering mathematics <i>Required: ENG1090 *</i>	ENG1014 Engineering numerical analysis <i>Corequisite: ENG1005</i>	First Year engineering technical elective+ <i>Or swap semester with an Elective unit</i>
	Sem 2 July	ENG1012 Engineering design	ENG1011 Engineering methods	Elective	Elective

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.
- No more than 60 credit points of level 1 units can be credited to the engineering course.
- For enrolment advice, please speak with a course adviser in your specialisation. Refer to the [Course Advisers webpage](#) if you are in Clayton.



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E3001 Bachelor of Engineering (Honours)

Specialisation – Aerospace engineering

Year	Period	Units			
1	Sem 1 Feb	Common First Year			
	Sem 2 July				
2	Sem 1 Feb	MEC2402 Design methods From 2026 Replace with MMA2001	MEC2403 Mechanics of materials From 2026 Replace with MMA2002	ENG2005 Advanced engineering mathematics	Level 1, 2 or 3 elective or engineering technical elective
	Sem 2 July	MAE3408 Aerospace control In 2025 Replace with MEC3457 From 2026 Replace with MMA2005	MAE2404 Aerodynamics 1 From 2026 See Progression plan	MAE2505 Aerospace dynamics From 2026 Replace with MMA2004	Level 1, 2 or 3 elective or engineering technical elective
3	Sem 1 Feb	MAE2402 Thermodynamics and gas dynamics From 2026 See Progression plan	MAE3404 Flight vehicle dynamics In 2025 Replace with TRC3200 From 2026 Replace with MAE3002	MAE3401 Aerodynamics 2 See Progression plan	Engineering minor or level 3 or 4 aerospace engineering technical elective
	Sem 2 July	MEC3456 Engineering computational analysis From 2026 Replace with MMA3001	MAE3411 Aerospace structural mechanics	MAE3405 Aerospace propulsion See Progression plan	Engineering minor or level 3 or 4 aerospace engineering technical elective
4	Sem 1 Feb	ENG4701 Final year project A	MEC4404 Professional practice Replace with one Professional Practice domain unit	MAE4416 Orbital mechanics and spaceflight dynamics	Engineering minor or level 3, 4 or 5 aerospace engineering technical elective
	Sem 2 July	ENG4702 Final year project B	MAE4426 Finite element analysis and composite structures From 2026 Replace with MMA4001	MAE4410 Flight vehicle design	Engineering minor or level 3, 4 or 5 aerospace engineering technical elective

Clayton students enrol in [ENG0001](#) Continuous Professional Development (0 credit points)

NOTE: Please read the [Aerospace Engineering Progression Plan](#) alongside this course map to guide your progression.

- It is important that you follow the course map unit sequence, as units are designed to build on prior knowledge. Taking units out of sequence can disrupt your progression and cause delays due to semester offerings and enrolment rules.
- [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.
- You are required to complete 420 hours of Continuous Professional Development (CPD) in order to graduate. For further information, refer to the [CPD webpage](#).
- No more than 60 credit points of level 1 units can be credited to the engineering course.
- For enrolment advice, please refer to the [Course Advisers webpage](#).



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E3001 Bachelor of Engineering (Honours)

Specialisation – Biomedical engineering – *Biomedical devices stream*

Year	Period	Units			
1	Sem 1 Feb	Common First Year			BMS1021 Cells, tissues and organisms
	Sem 2 July				Elective
2	Sem 1 Feb	ENG2005 Advanced engineering mathematics	ECE2071 Computer organisation and programming Unit title change from 2025	PHY2011 Neuroscience of communication, sensory and control systems	MCB2011 Molecular biology and the cell
	Sem 2 July	ECE2111 Signals and systems	CHE2161 Mechanics of fluids	PHY2042 Human physiology: Cardiovascular, respiratory and renal systems	MCB2022 The dynamic cell
3	Sem 1 Feb	ECE2131 Electrical circuits	MEC3601 Mechanics for biomedical engineering From 2026 Replace with MMA2002	MTE3204 Biomaterials 1	DEV2011 Early human development from cells to tissues
	Sem 2 July	ECE4179 Neural networks and deep learning From 2026 Replace with ECE3192	ECE4087 Medical technology innovation	MEC3602 Biomedical microsystems	DEV2022 Human anatomy and development: Tissues and body systems
4	Sem 1 Feb	ENG4701 Final year project A	MEC4404 Professional practice or ECE4099 Professional practice Replace with one Professional Practice domain unit	TRC3500 Sensors and artificial perception	PHY3111 Sensory and cognitive neuroscience From 2025 You may complete PHY3111 or a unit chosen from the prescribed biomedical engineering elective list
	Sem 2 July	ENG4702 Final year project B	ENG4105 Biomedical engineering integrated design	ECE4081 Medical instrumentation	MEC4601 Implantable devices From 2026 Replace with MTE4596

Clayton students enrol in [ENG0001](#)
Continuous Professional Development
(0 credit points)

NOTE:

- It is important that you follow the course map unit sequence, as units are designed to build on prior knowledge. Taking units out of sequence can disrupt your progression and cause delays due to semester offerings and enrolment rules.
- 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 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.
- 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](#).
- No more than 60 credit points of level 1 units can be credited to the engineering course.
- For enrolment advice, please refer to the [Course Advisers webpage](#).



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E3001 Bachelor of Engineering (Honours)

Specialisation – Chemical engineering

Year	Period	Units			
1	Sem 1 Feb	Common First Year			
	Sem 2 July				
2	Sem 1 Feb	ENG2005 Advanced engineering mathematics	CHM1011 Chemistry 1 or CHM1051 Chemistry 1 advanced	CHE2164 Thermodynamics 1	Level 1, 2 or 3 elective or engineering technical elective
	Sem 2 July	CHE2162 Materials and energy balances	CHE2161 Mechanics of fluids	CHE2163 Heat and mass transfer	Level 1, 2 or 3 elective or engineering technical elective
3	Sem 1 Feb	CHE3161 Chemistry and chemical thermodynamics	CHE3165 Separation processes	CHE3167 Transport phenomena and numerical methods	Engineering minor or level 3 or 4 chemical engineering technical elective
	Sem 2 July	CHE3162 Process control	CHE3164 Reaction engineering	CHE3166 Process design	Engineering minor or level 3 or 4 chemical engineering technical elective
4	Sem 1 Feb	ENG4701 Final year project A	CHE4162 Particle technology	CHE4161 Engineer in society Replace with one Professional Practice domain unit	Engineering minor or level 3, 4 or 5 chemical engineering technical elective
	Sem 2 July	ENG4702 Final year project B	CHE4170 Design project (12 points)		Engineering minor or level 3, 4 or 5 chemical engineering technical elective

NOTE:

- It is important that you follow the course map unit sequence, as units are designed to build on prior knowledge. Taking units out of sequence can disrupt your progression and cause delays due to semester offerings and enrolment rules.
- [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 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.
- CHE4164 and CHE4165 – From 2025, the integrated industrial project opportunities become part of the ENG4701 and ENG4702 Final year projects.
- 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.
- No more than 60 credit points of level 1 units can be credited to the engineering 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 adviser in your specialisation. Refer to the [Course Advisers webpage](#) if you are in Clayton.

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E3001 Bachelor of Engineering (Honours)

Specialisation – Civil engineering

Year	Period	Units				
1	Sem 1 Feb	Common First Year				
	Sem 2 July					
2	Sem 1 Feb	CIV2206 Structural mechanics	CIV2282 Transport and traffic engineering	CIV2263 Water systems	Level 1, 2 or 3 elective or engineering technical elective	
	Sem 2 July	ENG2005 Advanced engineering mathematics	CIV2242 Geomechanics 1	CIV2235 Structural materials	Level 1, 2 or 3 elective or engineering technical elective	
3	Sem 1 Feb	CIV4286 Project management for civil engineers Replace with one Professional Practice domain unit	CIV3294 Structural design	CIV3285 Engineering hydrology	Engineering minor or level 3 or 4 civil engineering technical elective	
	Sem 2 July	CIV3283 Road engineering	CIV3221 Building structures and technology	CIV3247 Geomechanics 2	Engineering minor or level 3 or 4 civil engineering technical elective	Malaysia students enrol in ENG0002 Industrial training (0 credit points)
4	Sem 1 Feb	ENG4701 Final year project A	CIV4249 Foundation engineering	CIV4280 Bridge design and assessment	Engineering minor or level 3, 4 or 5 civil engineering technical elective	Clayton students enrol in ENG0001 Continuous Professional Development (0 credit points)
	Sem 2 July	ENG4702 Final year project B	CIV4212 Civil and environmental engineering practice	CIV4288 Water treatment	Engineering minor or level 3, 4 or 5 civil engineering technical elective	

NOTE:

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- [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 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.
- No more than 60 credit points of level 1 units can be credited to the engineering 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 adviser in your specialisation. Refer to the [Course Advisers webpage](#) if you are in Clayton.



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E3001 Bachelor of Engineering (Honours)

Specialisation – Electrical and computer systems engineering

Year	Period	Units			
1	Sem 1 Feb	Common First Year			
	Sem 2 July				
2	Sem 1 Feb	ECE2071 Computer organisation and programming Unit title change from 2025	ECE2131 Electrical circuits	ENG2005 Advanced engineering mathematics	Level 1, 2 or 3 elective or engineering technical elective.
	Sem 2 July	ECE2072 Digital systems	ECE2111 Signals and systems	ECE2191 Probability models in engineering	Level 1, 2 or 3 elective or engineering technical elective
3	Sem 1 Feb	ECE3073 Computer systems	ECE3141 Information and networks	ECE3051 Electrical energy systems	Engineering minor or level 3 or 4 ECSE technical elective
	Sem 2 July	ECE4132 Control system design From 2027: Replace with ECE3133	ECE3121 Engineering electromagnetics Studying in Clayton in 2024 only: Replace with ECE3122	ECE3161 Analogue electronics	Engineering minor or level 3 or 4 ECSE technical elective
4	Sem 1 Feb	ENG4701 Final year project A	ECE4099 Professional practice Replace with one Professional Practice domain unit	Level 4 or 5 ECE-coded core elective*	Engineering minor or level 3, 4 or 5 ECSE technical elective
	Sem 2 July	ENG4702 Final year project B	ECE4191 Engineering integrated design	Level 4 or 5 ECE-coded core elective	Engineering minor or level 3, 4 or 5 ECSE technical elective

Malaysia students enrol in [ENG0002](#)
Industrial training (0 credit points)

Clayton students enrol in [ENG0001](#)
Continuous Professional Development
(0 credit points)

NOTE:

- It is important that you follow the course map unit sequence, as units are designed to build on prior knowledge. Taking units out of sequence can disrupt your progression and cause delays due to semester offerings and enrolment rules.
- [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 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.
- ***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.
- No more than 60 credit points of level 1 units can be credited to the engineering course.
- For enrolment advice, please speak with a course adviser in your specialisation. Refer to the [Course Advisers webpage](#) if you are in Clayton.

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E3001 Bachelor of Engineering (Honours)

Specialisation – Environmental engineering

Year	Period	Units			
1	Sem 1 Feb	Common First Year			
	Sem 2 July				
2	Sem 1 Feb	ENE2021 Energy and the environment	CHE2164 Thermodynamics 1	CIV2263 Water systems	Level 1, 2 or 3 elective or engineering technical elective
	Sem 2 July	CHE2162 Material and energy balances From 2026 Replace with ENE2268	ENG2005 Advanced engineering mathematics	ENE2503 Material properties and recycling	Level 1, 2 or 3 elective or engineering technical elective
3	Sem 1 Feb	CIV3248 Groundwater and environmental geomechanics From 2025 Replace with ENE4043	CIV3285 Engineering hydrology	BTX3100 Sustainability regulation for business	Engineering minor or level 3 or 4 environmental engineering technical elective
	Sem 2 July	ENE3606 The air environment	ENE3032 Fate and transport of contaminants	ENE3031 Building sustainability	Engineering minor or level 3 or 4 environmental engineering technical elective
4	Sem 1 Feb	ENG4701 Final year project A	CIV4286 Project management for civil engineers Replace with one Professional Practice domain unit	ENE4042 Environment impact and risk assessment	Engineering minor or level 3 or 4 environmental engineering technical elective
	Sem 2 July	ENG4702 Final year project B	CIV4212 Civil and environmental engineering practice	ENE4041 Soil remediation and solid waste management	Engineering minor or level 3 or 4 environmental engineering technical elective

Clayton students enrol in [ENG0001](#) Continuous Professional Development (0 credit points)

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- It is important that you follow the course map unit sequence, as units are designed to build on prior knowledge. Taking units out of sequence can disrupt your progression and cause delays due to semester offerings and enrolment rules.
- [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 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.
- You are required to complete 420 hours of Continuous Professional Development (CPD) in order to graduate. For further information, refer to the [CPD webpage](#).
- No more than 60 credit points of level 1 units can be credited to the engineering course.
- For enrolment advice, please refer to the [Course Advisers webpage](#).



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E3001 Bachelor of Engineering (Honours)

Specialisation – Materials engineering

Year	Period	Units			
1	Sem 1 Feb	Common First Year			
	Sem 2 July				
2	Sem 1 Feb	MTE2101 Atomic-scale structure of materials	MTE2102 Phase equilibria and phase transformations	MTE2103 Mechanical properties of materials	Level 1, 2 or 3 elective or engineering technical elective
	Sem 2 July	MTE3101 Materials in a complex world 1: People, projects and data From 2026 Replace with MTE2204	MTE2201 Polymers Unit title change from 2025	ENG2005 Advanced engineering mathematics	Level 1, 2 or 3 elective or engineering technical elective
3	Sem 1 Feb	MTE3103 Materials life cycle	MTE3102 Plasticity of metals and alloys	MTE2202 Functional materials 1 From 2026 Replace with MTE3104	Engineering minor or level 3 or 4 materials engineering technical elective
	Sem 2 July	MTE3202 Functional materials 2 Unit title change from 2026	MTE3203 Introduction to ceramics: Properties, processing and applications	MTE3201 Materials in a complex world 2: Characterisation, identification and selection	Engineering minor or level 3 or 4 materials engineering technical elective
4	Sem 1 Feb	ENG4701 Final year project A	MTE4102 Advanced materials processing and manufacturing	MTE4101 Integrated design project	Engineering minor or level 3, 4 or 5 materials engineering technical elective
	Sem 2 July	ENG4702 Final year project B	Level 4 or 5 MTE-coded materials engineering core elective	MTE4201 Materials in a complex world 3: Impact in society Replace with one Professional Practice domain unit	Engineering minor or level 3, 4 or 5 materials engineering technical elective

Clayton students enrol in [ENG0001](#) Continuous Professional Development (0 credit points)

NOTE:

- It is important that you follow the course map unit sequence, as units are designed to build on prior knowledge. Taking units out of sequence can disrupt your progression and cause delays due to semester offerings and enrolment rules.
- [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 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 materials 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.
- You are required to complete 420 hours of Continuous Professional Development (CPD) in order to graduate. For further information, refer to the [CPD webpage](#).
- No more than 60 credit points of level 1 units can be credited to the engineering course.
- For enrolment advice, please refer to the [Course Advisers webpage](#).



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E3001 Bachelor of Engineering (Honours)

Specialisation – Mechanical engineering

Year	Period	Units			
1	Sem 1 Feb	Common First Year			
	Sem 2 July				
2	Sem 1 Feb	MEC2402 Design methods From 2026 Replace with MMA2001	MEC2403 Mechanics of materials From 2026 Replace with MMA2002	ENG2005 Advanced engineering mathematics	Level 1, 2 or 3 elective or engineering technical elective
	Sem 2 July	MEC3457 Systems and control From 2026 Replace with MMA2005	MEC2404 Mechanics of fluids From 2026 See Progression plan	MEC2401 Dynamics 1 From 2026 Replace with MMA2004 - See Progression plan	Level 1, 2 or 3 elective or engineering technical elective
3	Sem 1 Feb	MEC3455 Solid mechanics Unit title change from 2026	MEC3451 Fluid mechanics 2	MEC2405 Thermodynamics From 2026 See Progression plan	Engineering minor or level 3 or 4 mechanical engineering technical elective
	Sem 2 July	MEC3453 Dynamics 2 Unit title change from 2026	MEC3416 Machine design Unit title change from 2026	MEC3456 Engineering computational analysis From 2026 Replace with MMA3001 - See Progression plan	Engineering minor or level 3 or 4 mechanical engineering technical elective
4	Sem 1 Feb	ENG4701 Final year project A	MEC4404 Professional practice Replace with one Professional Practice domain unit	MEC4408 Thermodynamics and heat transfer Unit title change from 2026	Engineering minor or level 3, 4 or 5 mechanical engineering technical elective
	Sem 2 July	ENG4702 Final year project B	MEC4426 Computer-aided design From 2026 Replace with MMA4001	MEC4407 Design project Unit title change from 2026	Engineering minor or level 3, 4 or 5 mechanical engineering technical elective

NOTE: Please read the [Mechanical Engineering Progression Plan](#) alongside this course map to guide your progression.

- It is important that you follow the course map unit sequence, as units are designed to build on prior knowledge. Taking units out of sequence can disrupt your progression and cause delays due to semester offerings and enrolment rules.
- [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 MEC2404) 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 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.
- **Studying mechanical engineering specialisation in Malaysia:** You must complete MEC3459 to meet the Board of Engineers Malaysia (BEM) 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.
- No more than 60 credit points of level 1 units can be credited to the engineering course.
- For enrolment advice, please speak with a course adviser in your specialisation. Refer to the [Course Advisers webpage](#) if you are in Clayton.



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E3001 Bachelor of Engineering (Honours)

Specialisation – Robotics and mechatronics engineering – *Artificial intelligence stream*

Year	Period	Units			
1	Sem 1 Feb	Common First Year			
	Sem 2 July				
2	Sem 1 Feb	MEC2402 Design methods From 2026 Replace with MMA2001	ECE2131 Electrical circuits	ECE2071 Computer organisation and programming Unit title change from 2025	Level 1, 2 or 3 elective or engineering technical elective
	Sem 2 July	ENG2005 Advanced engineering mathematics	TRC2201 Mechanics From 2026 Replace with MMA2004	ECE2072 Digital systems	Level 1, 2 or 3 elective or engineering technical elective
3	Sem 1 Feb	ECE3161 Analogue electronics From 2026 Replace with ECE3073	TRC3200 Dynamical systems	TRC3500 Sensors and artificial perception	Engineering minor or level 3 or 4 robotics and mechatronics engineering technical elective
	Sem 2 July	TRC3600 Feedback control systems From 2026 Replace with MMA2005	ECE4179 Neural networks and deep learning From 2026 Replace with ECE3192	ECE4078 Intelligent robotics	Engineering minor or level 3 or 4 robotics and mechatronics engineering technical elective
4	Sem 1 Feb	ENG4701 Final year project A	TRC4800 Robotics	ECE4076 Computer vision	Engineering minor or level 3, 4 or 5 robotics and mechatronics engineering technical elective
	Sem 2 July	ENG4702 Final year project B	TRC4002 Professional practice Replace with one Professional Practice domain unit	ECE4191 Engineering integrated design From 2026 Replace with TRC4407	Engineering minor or level 3, 4 or 5 robotics and mechatronics engineering technical elective

Malaysia students enrol in [ENG0002](#) Industrial training (0 credit points)

Clayton students enrol in [ENG0001](#) Continuous Professional Development (0 credit points)

NOTE: Please read the [Robotics and Mechatronics Engineering Progression Plan](#) alongside this course map to guide your progression.

- It is important that you follow the course map unit sequence, as units are designed to build on prior knowledge. Taking units out of sequence can disrupt your progression and cause delays due to semester offerings and enrolment rules.
- [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 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.
- **Studying robotics and mechatronics engineering specialisation in Malaysia:** To meet Engineering Accreditation Council Malaysia (EAC) requirement for accreditation, you must complete [([ECE3051](#) or [MEC3416](#) or [MEC3821](#)) and [TRC4802](#)]
- You are required to complete the [Continuous Professional Development](#) (if studying in Australia) or [Industrial training](#) (if studying in Malaysia) in order to graduate.
- No more than 60 credit points of level 1 units can be credited to the engineering course.
- 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: 30 September 2026

E3001 Bachelor of Engineering (Honours)

Specialisation – Robotics and mechatronics engineering – *Automation stream*

Year	Period	Units			
1	Sem 1 Feb	Common First Year			
	Sem 2 July				
2	Sem 1 Feb	MEC2402 Design methods From 2026 Replace with MMA2001	ECE2131 Electrical circuits	ECE2071 Computer organisation and programming Unit title change from 2025	Level 1, 2 or 3 elective or engineering technical elective
	Sem 2 July	ENG2005 Advanced engineering mathematics	TRC2201 Mechanics From 2026 Replace with MMA2004	ECE2072 Digital systems	Level 1, 2 or 3 elective or engineering technical elective
3	Sem 1 Feb	ECE3161 Analogue electronics In 2025 Complete ECE3161 or ECE3073 From 2026 Replace with ECE3073	TRC3200 Dynamical systems	TRC3500 Sensors and artificial perception	Engineering minor or level 3 or 4 robotics and mechatronics engineering technical elective
	Sem 2 July	TRC3600 Feedback control systems From 2026 Replace with MMA2005	TRC4902 Mechatronics and manufacturing From 2026 Replace with ECE4179 or ECE3192	TRC4802 Thermo-fluids and power systems Studying in Malaysia in 2025 only: Replace with MEC2405 Studying in Clayton in 2025 only: Replace with MEC2404 or MEC2405 From 2026 Replace with MMA2003 – See Progression Plan	Engineering minor or level 3 or 4 robotics and mechatronics engineering technical elective Malaysia students enrol in ENG0002 Industrial training (0 credit points)
4	Sem 1 Feb	ENG4701 Final year project A	TRC4800 Robotics	TRC4200 Engineering cyber-physical systems Studying in Clayton in 2025 only: Replace with ECE4076 or ECE4179 From 2026 Replace with ECE4076	Engineering minor or level 3, 4 or 5 robotics and mechatronics engineering technical elective Clayton students enrol in ENG0001 Continuous Professional Development (0 credit points)
	Sem 2 July	ENG4702 Final year project B	TRC4002 Professional practice Replace with one Professional Practice domain unit	TRC4407 Automation design project Studying in Clayton in 2024 and 2025 only: Replace with ECE4191	Engineering minor or level 3, 4 or 5 robotics and mechatronics engineering technical elective

NOTE: Please read the [Robotics and Mechatronics Engineering Progression Plan](#) alongside this course map to guide your progression.

- It is important that you follow the course map unit sequence, as units are designed to build on prior knowledge. Taking units out of sequence can disrupt your progression and cause delays due to semester offerings and enrolment rules.
- [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 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.
- **Studying robotics and mechatronics engineering specialisation in Malaysia:** To meet Engineering Accreditation Council Malaysia (EAC) requirement for accreditation, you must complete [([ECE3051](#) or [MEC3416](#) or [MEC3821](#)) and [TRC4802](#)]
- You are required to complete the [Continuous Professional Development](#) (if studying in Australia) or [Industrial training](#) (if studying in Malaysia) in order to graduate.
- No more than 60 credit points of level 1 units can be credited to the engineering course.
- 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

Year	Period	Units			
1	Sem 1 Feb	Common First Year			
	Sem 2 July				
2	Sem 1 Feb	FIT2085 Introduction to computer science for engineers	MAT1830 Discrete mathematics for computer science	FIT2099 Object-oriented design and implementation	Level 1, 2 or 3 elective or engineering technical elective
	Sem 2 July	FIT2101 Software engineering process and management	FIT2004 Algorithms and data structures	FIT2107 Software quality and testing	Level 1, 2 or 3 elective or engineering technical elective
3	Sem 1 Feb	FIT3159 Computer architecture	FIT3077 Software engineering: Architecture and design	FIT3170 Software engineering practice (12 points)	Level 3 or 4 software engineering technical elective
	Sem 2 July	FIT2100 Operating systems	FIT3171 Databases		Level 3 or 4 software engineering technical elective
4	Sem 1 Feb	FIT4002 Software engineering industry experience studio project (12 points)	FIT4701 Final year project A	FIT4165 Computer networks	Level 3, 4 or 5 software engineering technical elective
	Sem 2 July		FIT4702 Final year project B	Level 4 or 5 software engineering core elective	Level 3, 4 or 5 software engineering technical elective

Malaysia students enrol in [ENG0002](#) Industrial training (0 credit points)

Clayton students enrol in [ENG0001](#) Continuous Professional Development (0 credit points)

NOTE:

- It is important that you follow the course map unit sequence, as units are designed to build on prior knowledge. Taking units out of sequence can disrupt your progression and cause delays due to semester offerings and enrolment rules.
- [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 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.
- 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.
- No more than 60 credit points of level 1 units can be credited to the engineering course.
- 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 – *Industry-based Learning*

Year	Period	Units			
1	Sem 1 Feb	Common First Year			
	Sem 2 July				
2	Sem 1 Feb	FIT2085 Introduction to computer science for engineers	MAT1830 Discrete mathematics for computer science	FIT2099 Object-oriented design and implementation	Level 1, 2 or 3 elective or engineering technical elective
	Sem 2 July	FIT2101 Software engineering process and management	FIT2004 Algorithms and data structures	FIT2107 Software quality and testing	FIT2100 Operating systems
3	Sem 1 Feb	FIT3159 Computer architecture	FIT3077 Software engineering: Architecture and design	FIT3171 Databases	Level 3 or 4 software engineering technical elective
	Sem 2 July	FIT4042 Industry based learning (18 points)			*See footnote
4	Sem 1 Feb	FIT3170 Software engineering practice (12 points)	FIT4701 Final year project A	FIT4165 Computer networks	Level 3 or 4 software engineering technical elective
	Sem 2 July		FIT4702 Final year project B	Level 3 or 4 software engineering technical elective	Level 3, 4 or 5 software engineering technical elective

NOTE:

- It is important that you follow the course map unit sequence, as units are designed to build on prior knowledge. Taking units out of sequence can disrupt your progression and cause delays due to semester offerings and enrolment rules.
- [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 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.
- 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.
- No more than 60 credit points of level 1 units can be credited to the engineering course.
- For enrolment advice, please speak with a course adviser in your specialisation. Refer to the [Course Advisers webpage](#) if you are in Clayton.