Course progression maps for 2025 commencing students

This progression map provides advice on the optimal sequencing of units and guidance on planning unit enrolment for each semester of study in conjunction with the required units outlined in the course 'Requirements' section of the Handbook. Please note that the map may be updated to reflect changes to course requirements. Be sure to review it for the latest information before re-enrolling. *Last updated: 29 December 2025*

E3010 Bachelor of Engineering (Honours) and Bachelor of Computer Science

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)					
Year	**Sem**	**Units**			
1	Sem 1 Feb	ENG1013 Engineering smart systems	PHS1001 Foundation physics * *Corequisite: ENG1090 **	ENG1090 Foundation mathematics *	FIT1045 Introduction to programming
	Sem 2 July	ENG1011 Engineering methods	ENG1005 Engineering mathematics *Required: ENG1090 **	ENG1014 Engineering numerical analysis *Corequisite: ENG1005*	FIT1008 Fundamentals of algorithms
If you require two foundation units, you will need to take the remaining core unit ENG1012 Engineering design in Year 2 (Semester 1) as an overload. This increases the total credit points needed for the double degree by 6 points. You cannot swap the semesters of any of the units.					

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	ENG1011 Engineering methods	ENG1090 Foundation mathematics *	FIT1045 Introduction to programming
	Sem 2 July	ENG1013 Engineering smart systems	ENG1005 Engineering mathematics *Required: ENG1090 **	ENG1014 Engineering numerical analysis *Corequisite: ENG1005*	FIT1008 Fundamentals of algorithms

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 *Required: ENG1090 **	ENG1013 Engineering smart systems	PHS1001 Foundation physics *	FIT1045 Introduction to programming
	Sem 2 July	ENG1011 Engineering methods	ENG1012 Engineering design	ENG1014 Engineering numerical analysis *Corequisite: ENG1005*	FIT1008 Fundamentals of algorithms

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					
1	Sem 1 Feb	ENG1011 Engineering methods	ENG1005 Engineering mathematics *Required: ENG1090 **	ENG1014 Engineering numerical analysis *Corequisite: ENG1005*	FIT1045 Introduction to programming
	Sem 2 July	ENG1012 Engineering design	ENG1013 Engineering smart systems	First Year engineering breadth study	FIT1008 Fundamentals of algorithms

NOTE:

- * 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.
- 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.
- For enrolment advice, please refer to the Course advisers webpage.

Source: Monash University 2025 Handbook - CRICOS Provider Number: 00008C
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E3010 Bachelor of Engineering (Honours) and Bachelor of Computer Science

Engineering specialisation - Electrical and computer systems engineering
Computer Science specialisation – Algorithms and software

	Bachelor of Electrical and Computer Systems Engineering (Honours)		Bachelor of Computer Science		
Year 1 Semester 1 February	Common First Year			FIT1045 Introduction to programming	
Year 1 Semester 2 July				FIT1008 Fundamentals of algorithms	
Year 2 Semester 1 February	ENG2005 Advanced engineering mathematics	ECE2071 Systems programming	ECE2131 Electrical circuits	FIT1058 Foundations of computing	If two foundation units are required, then overload is required for ENG1012 Engineering design
Year 2 Semester 2 July	ECE2072 Digital systems	ECE2111 Signals and systems	FIT1047 Introduction to computer systems, networks and security	FIT1049 / FIT1055 IT professional practice	
Year 3 Semester 1 February	ECE3073 Computer systems	ECE3051 Electrical energy systems	FIT2004 Algorithms and data structures	FIT2094 Databases	
Year 3 Semester 2 July	ECE2191 Probability and AI for engineers	ECE4132 Control system design	FIT2109 Computer science workshop	FIT2102 Programming paradigms	
Year 4 Semester 1 February	ECE3141 Information and networks	Core List A elective	FIT2099 Object oriented design and implementation	FIT2014 Theory of computation	
Year 4 Semester 2 July	ECE3121 Engineering electromagnetics	ECE3161 Analogue electronics	FIT3155 Advanced data structures and algorithms	FIT3143 Parallel computing	
Year 5 Semester 1 February	ENG4701 Final year project A	Complete one Professional Practice domain unit	Any level 3 unit from list B of the algorithms and software specialisation	FIT3161 Computer science project 1	ENG0001 Continuous Professional Development (0 credit points)
Year 5 Semester 2 July	ENG4702 Final year project B	ECE4191 Engineering integrated design	Core List A or B elective	FIT3162 Computer science project 2	

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.
- **ECE2072** - If you have completed this unit as a First Year breadth study unit, it will count towards your ECSE study. You must still fulfil the First Year engineering breadth study requirement by completing another breadth study unit.
- Engineering minors are not available in the Engineering double degree courses.
- You are required to complete at least 420 hours of Continuous Professional Development (CPD) in order to graduate. For further information refer to the CPD 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.
- For enrolment advice, please refer to the Course advisers webpage.

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E3010 Bachelor of Engineering (Honours) and Bachelor of Computer Science

Engineering specialisation – Robotics and mechatronics engineering
Computer Science specialisation – Algorithms and software

	Bachelor of Robotics and Mechatronics Engineering (Honours)		Bachelor of Computer Science		
Year 1 Semester 1 February	Common First Year			FIT1045 Introduction to programming	
Year 1 Semester 2 July				FIT1008 Fundamentals of algorithms	
Year 2 Semester 1 February	ECE2071 Systems programming	ECE2131 Electrical circuits	FIT1047 Introduction to computer systems, networks and security	FIT1058 Foundations of computing	If two foundation units are required, then overload is required for ENG1012 Engineering design
Year 2 Semester 2 July	ENG2005 Advanced engineering mathematics	MMA2004 Dynamics 1 Replacing TRC2201	FIT1049 / FIT1055 IT professional practice	FIT2109 Computer science workshop	
Year 3 Semester 1 February	MMA2001 Design 1 Replacing MEC2402	TRC3200 Dynamical systems	FIT2004 Algorithms and data structures	FIT2094 Databases	
Year 3 Semester 2 July	ECE2072 Digital systems	MMA2005 Modelling and control Replacing TRC3600	FIT2014 Theory of computation	FIT2102 Programming paradigms	
Year 4 Semester 1 February	TRC3500 Sensors and artificial perception	ECE3073 Computer systems	FIT2099 Object oriented design and implementation	Any level 3 unit from list B of the algorithms and software specialisation	
Year 4 Semester 2 July	MMA2003 Thermofluids 1 Replacing TRC4802	ECE4179 Neural networks and deep learning	FIT3155 Advanced data structures and algorithms	FIT3143 Parallel computing	
Year 5 Semester 1 February	ENG4701 Final year project A	TRC4800 Robotics	ECE4076 Computer vision	FIT3161 Computer science project 1	ENG0001 Continuous Professional Development (0 credit points)
Year 5 Semester 2 July	ENG4702 Final year project B	TRC4407 Automation design project	Complete one Professional Practice domain unit	FIT3162 Computer science project 2	

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.
- **ECE2072** - If you have completed this unit as a First Year breadth study unit, it will count towards your robotics and mechatronics engineering study. You must still fulfil the First Year engineering breadth study requirement by completing another breadth study unit.
- You are required to complete the Continuous Professional Development 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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E3010 Bachelor of Engineering (Honours) and Bachelor of Computer Science

Engineering specialisation - Software engineering
Computer Science specialisation – Algorithms and software

	Bachelor of Software Engineering (Honours)		Bachelor of Computer Science		
Year 1 Semester 1 February	Common First Year			FIT1045 Introduction to programming	
Year 1 Semester 2 July				FIT1008 Fundamentals of algorithms	
Year 2 Semester 1 February	FIT2099 Object oriented design and implementation	Software engineering technical elective *	FIT1047 Introduction to computer systems, networks and security	FIT1058 Foundations of computing	If two foundation units are required, then overload is required for ENG1012 Engineering design
Year 2 Semester 2 July	FIT2004 Algorithms and data structures	FIT2101 Software engineering process and management	FIT1049 / FIT1055 IT professional practice	FIT2109 Computer science workshop	
Year 3 Semester 1 February	FIT3159 Computer architecture	Software engineering technical elective *	Level 2 FIT-coded elective	FIT2094 Databases	
Year 3 Semester 2 July	FIT2107 Software quality and testing	FIT2100 Operating systems	FIT2014 Theory of computation	FIT2102 Programming paradigms	
Year 4 Semester 1 February	FIT3170 Software engineering practice (12 points)	FIT3077 Software engineering: architecture and design	Level 2 or above FIT-coded elective	Any level 3 unit from list B of the algorithms and software specialisation	
Year 4 Semester 2 July		Level 3, 4 or 5 software engineering technical elective *	FIT3155 Advanced data structures and algorithms	FIT3143 Parallel computing	
Year 5 Semester 1 February	FIT4002 Software engineering industry experience studio project (12 points)	FIT4701 Final year software engineering project A	FIT4165 Computer networks	FIT3161 Computer science project 1	ENG0001 Continuous Professional Development (0 credit points)
Year 5 Semester 2 July		FIT4702 Final year software engineering project B	Level 4 or 5 software engineering core elective	FIT3162 Computer science project 2	

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.
- If you completed FIT1058 in 2025, it will be counted in place of MAT1830. Otherwise, you must complete MAT1830.
- * **FIT2085 and FIT3171:** Replace with approved software engineering electives due to overlapping content with the Bachelor of Computer Science.
- Engineering minors are not available in the Engineering double degree courses.
- You are required to complete at least 420 hours of Continuous Professional Development (CPD) in order to graduate. For further information refer to the CPD 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.
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