

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 does not substitute for the list of required units as described in the course 'Requirements' section of the [Handbook](#). Please note that the map is subject to updates. Update version: 18 December 2023

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 <u>and</u> VCE Units 3 & 4 Physics >25 study score: You must enrol in Foundation mathematics (ENG1090) <u>and</u> Foundation physics (PHS1001)					
Year	Sem	Units			
1	Sem 1 Feb	ENG1012 Engineering design	PHS1001 Foundation physics * <i>Corequisite: ENG1090 *</i>	ENG1090 Foundation mathematics *	FIT1045 Introduction to programming
	Sem 2 July	ENG1013 Engineering smart systems	ENG1005 Engineering mathematics <i>Required: ENG1090 *</i>	ENG1014 Engineering numerical analysis <i>Corequisite: ENG1005</i>	FIT1008 Introduction to computer science
You must complete ENG1013 Engineering smart systems in Year 1 and take ENG1011 Engineering methods in Year 2 (Semester 1) as an overload. This will increase 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	ENG1013 Engineering smart systems	ENG1090 Foundation mathematics *	FIT1045 Introduction to programming
	Sem 2 July	ENG1011 Engineering methods	ENG1005 Engineering mathematics <i>Required: ENG1090 *</i>	ENG1014 Engineering numerical analysis <i>Corequisite: ENG1005</i>	FIT1008 Introduction to computer science
Tip: You can swap the semesters of ENG1013 and FIT1008.					

You do not have VCE Units 3 & 4 Physics >25 study score: You must enrol in Foundation physics (PHS1001)					
1	Sem 1 Feb	ENG1012 Engineering design	ENG1013 Engineering smart systems	PHS1001 Foundation physics *	FIT1045 Introduction to programming
	Sem 2 July	ENG1011 Engineering methods	ENG1005 Engineering mathematics <i>Required: ENG1090 *</i>	ENG1014 Engineering numerical analysis <i>Corequisite: ENG1005</i>	FIT1008 Introduction to computer science
Tip: You can swap the semesters of ENG1013 and FIT1008.					

You have completed VCE Units 3 & 4 Physics >25 study score <u>and</u> 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 <i>Required: ENG1090 *</i>	ENG1014 Engineering numerical analysis <i>Corequisite: ENG1005</i>	FIT1045 Introduction to programming
	Sem 2 July	ENG1012 Engineering design	ENG1013 Engineering smart systems	First Year engineering technical elective	FIT1008 Introduction to computer science
Tip: You can swap the semesters of your engineering elective and FIT1045.					

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](#).
- 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 - Electrical and computer systems engineering

IT specialisation - Advanced computer science

	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 Introduction to computer science	
Year 2 Semester 1 February	ENG2005 Advanced engineering mathematics	ECE2071 Computer organisation and programming	FIT1047 Introduction to computer systems, networks and security	MAT1830 Discrete mathematics for computer science	If two foundation units are required, then overload is required for ENG1011 Engineering methods
Year 2 Semester 2 July	ECE2191 Probability models in engineering	ECE2072 Digital systems	FIT1049 IT professional practice	FIT elective	
Year 3 Semester 1 February	ECE3073 Computer systems	ECE2131 Electrical circuits	FIT2004 Algorithms and data structures	FIT2099 Object-oriented design and implementation	
Year 3 Semester 2 July	ECE2111 Signals and systems	ECE3121 Engineering electromagnetics <small>Replace ECE3121 with ECE3122 in 2024</small>	FIT2014 Theory of computation	FIT2102 Programming paradigms	
Year 4 Semester 1 February	ECE3161 Analogue electronics	ECE3141 Information and networks	FIT3171 Databases	Level 3 computer science approved elective	
Year 4 Semester 2 July	ECE4132 Control system design	Level 4 or 5 ECE-coded core elective	FIT3155 Advanced data structures and algorithms	FIT3143 Parallel computing	
Year 5 Semester 1 February	ENG4701 Final year project A	ECE3051 Electrical energy systems	Level 4 or 5 ECE-coded core elective	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	ECE4099 Professional practice	FIT3162 Computer science project 2	

NOTE:

- [ECE2072](#) - If you have completed the unit as a First Year elective, you must replace the core with another unit from the electrical and computer systems engineering technical electives list or from one of the [engineering minors](#). The replacement unit must be of the same level as the core unit or higher.
- 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 - Software engineering

IT specialisation - Advanced computer science

	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 Introduction to computer science	
Year 2 Semester 1 February	MAT1830 Discrete mathematics for computer science	Software engineering technical elective	FIT1047 Introduction to computer systems, networks and security	FIT elective	If two foundation units are required then overload is required for ENG1011 Engineering methods
Year 2 Semester 2 July	FIT2004 Algorithms and data structures	FIT2101 Software engineering process and management	FIT1049 IT professional practice	FIT elective	
Year 3 Semester 1 February	FIT3159 Computer architecture	FIT2099 Object oriented design and implementation	Level 2 FIT elective	Any level 3 unit from list B of the advanced computer science specialisation	
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 3 computer science approved elective	Level 3 computer science approved elective	
Year 4 Semester 2 July		FIT3171 Databases	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 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 project B	Level 4 or 5 software engineering core elective	FIT3162 Computer science project 2	

NOTE:

- MAT1830 or FIT2085** - If you have completed either unit as a First Year technical elective, you must replace the core with another unit from the software engineering technical electives list. The replacement unit must be of the same level as the core unit or higher.
- 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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