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

E3011 Bachelor of Engineering (Honours) and Bachelor of Information Technology

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	ENG1012 Engineering design	PHS1001 Foundation physics * *Corequisite: ENG1090 **	ENG1090 Foundation mathematics *	FIT1047 Introduction to computer systems networks and security
	Sem 2 July	ENG1013 Engineering smart systems	ENG1005 Engineering mathematics *Required: ENG1090 **	ENG1014 Engineering numerical analysis *Corequisite: ENG1005*	FIT1045 Introduction to programming
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 *	FIT1047 Introduction to computer systems networks and security
	Sem 2 July	ENG1011 Engineering methods	ENG1005 Engineering mathematics *Required: ENG1090 **	ENG1014 Engineering numerical analysis *Corequisite: ENG1005*	FIT1045 Introduction to programming

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 *	FIT1047 Introduction to computer systems networks and security
	Sem 2 July	ENG1011 Engineering methods	ENG1005 Engineering mathematics *Required: ENG1090 **	ENG1014 Engineering numerical analysis *Corequisite: ENG1005*	FIT1045 Introduction to programming

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*	FIT1047 Introduction to computer systems networks and security
	Sem 2 July	ENG1012 Engineering design	ENG1013 Engineering smart systems	First Year engineering technical elective	FIT1045 Introduction to programming
Tip: You can swap the semesters of your engineering elective and FIT1047.					

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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E3011 Bachelor of Engineering (Honours) and Bachelor of Information Technology

Engineering specialisation - Electrical and computer systems engineering
IT major – Cybersecurity

	Bachelor of Electrical and Computer Systems Engineering (Honours)		Bachelor of Information Technology		
Year 1 Semester 1 February	Common first year			FIT1047 Introduction to computer systems networks and security	
Year 1 Semester 2 July				FIT1045 Introduction to programming	
Year 2 Semester 1 February	ENG2005 Advanced engineering mathematics	ECE2071 Computer organisation and programming	FIT1049 IT professional practice	FIT2093 Introduction to cyber security	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	FIT2094 Databases	FIT2100 Operating systems	
Year 3 Semester 1 February	ECE3073 Computer systems	ECE2131 Electrical circuits	FIT2081 Mobile applications development	FIT2001 Systems development or FIT2099 Object-oriented design and implementation	
Year 3 Semester 2 July	ECE2111 Signals and systems	ECE3121 Engineering electromagnetics Replace ECE3121 with ECE3122 in 2024	FIT2002 IT project management	FIT elective	
Year 4 Semester 1 February	ECE3161 Analogue electronics	ECE3141 Information and networks	Cybersecurity* unit	Cybersecurity* unit	
Year 4 Semester 2 July	ECE4132 Control system design	Level 4 or 5 ECE-coded core elective	Cybersecurity* unit	FIT elective	
Year 5 Semester 1 February	ENG4701 Final year project A	ECE3051 Electrical energy systems	Level 4 or 5 ECE-coded core elective	FIT3047 IE Studio 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	FIT3048 IE Studio 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.
- *You must complete three units selected from FIT3031, FIT3165, FIT3168, FIT3173.
- 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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Course progression map for 2023 commencing students

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E3011 Bachelor of Engineering (Honours) and Bachelor of Information Technology

Engineering specialisation - Software engineering
IT major – Cybersecurity

	Bachelor of Software Engineering (Honours)		Bachelor of Information Technology		
Year 1 Semester 1 February	Common first year			FIT1047 Introduction to computer systems, networks and security	
Year 1 Semester 2 July				FIT1045 Introduction to programming	
Year 2 Semester 1 February	MAT1830 Discrete mathematics for computer science	FIT2085 Introduction to computer science	FIT1049 IT professional practice	FIT2093 Introduction to cyber security	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	FIT2094 Databases	FIT elective	
Year 3 Semester 1 February	FIT3159 Computer architecture	FIT2099 Object oriented design and implementation	FIT2001 Systems development	FIT2081 Mobile applications development	
Year 3 Semester 2 July	FIT2107 Software quality and testing	FIT2100 Operating systems	FIT2002 IT project management	FIT elective	
Year 4 Semester 1 February	FIT3170 Software engineering practice (12 points)	FIT3077 Software engineering: architecture and design	FIT3173 Software security	Level 2 or 3 FIT-coded elective	
Year 4 Semester 2 July		Level 3 or 4 software engineering technical elective	FIT3031 Network security	FIT3168 IT forensics	
Year 5 Semester 1 February	FIT4002 Software engineering industry experience studio project (12 points)	FIT4701 Final year project A	FIT4165 Computer networks	FIT3047 IE Studio 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	FIT3048 IE Studio project 2	

NOTE:

- 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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