

Course progression map for 2020 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](#). This map is subject to updates. Update version: 18 December 2023

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

Common first year

If no foundation units are required:					
Year	Sem	Units			
1	1	ENG1001 Engineering design: lighter, faster, stronger	ENG1005 Engineering mathematics	ENG1060 Computing for engineers	FIT1047 Introduction to computer systems networks and security
	2	ENG1002 Engineering design: cleaner, safer, smarter	ENG1003 Engineering mobile apps	First Year engineering elective unit	FIT1048 Fundamentals of C++ or FIT1045 Algorithms and programming fundamentals in Python or FIT1051 Programming fundamentals in Java

Tip: You can swap the semesters of your engineering elective and FIT1047.

If you need to enrol in foundation physics and maths*:					
1	1	ENG1002 Engineering design: cleaner, safer, smarter	PHS1001 Foundation physics	ENG1090 Foundation mathematics	FIT1047 Introduction to computer systems networks and security
	2	ENG1003 Engineering mobile apps	ENG1005 Engineering mathematics	ENG1060 Computing for engineers	FIT1048 Fundamentals of C++ or FIT1045 Algorithms and programming fundamentals in Python or FIT1051 Programming fundamentals in Java

If you require two foundation units, you will need to take the remaining core unit ENG1001 Engineering design: lighter, faster, stronger in semester one of year two as an overload, and increase the total credit points needed for the double by 6 points. You cannot swap the semesters of any of the units.

If you need to enrol in foundation maths:					
1	1	ENG1002 Engineering design: cleaner, safer, smarter	ENG1003 Engineering mobile apps	ENG1090 Foundation mathematics	FIT1047 Introduction to computer systems networks and security
	2	ENG1001 Engineering design: lighter, faster, stronger	ENG1005 Engineering mathematics	ENG1060 Computing for engineers	FIT1048 Fundamentals of C++ or FIT1045 Algorithms and programming fundamentals in Python or FIT1051 Programming fundamentals in Java

If you need to enrol in foundation physics:					
1	1	ENG1002 Engineering design: cleaner, safer, smarter	ENG1003 Engineering mobile apps	PHS1001 Foundation physics	FIT1047 Introduction to computer systems networks and security
	2	ENG1001 Engineering design: lighter, faster, stronger	ENG1005 Engineering mathematics	ENG1060 Computing for engineers	FIT1048 Fundamentals of C++ or FIT1045 Algorithms and programming fundamentals in Python or FIT1051 Programming fundamentals in Java

Note:

- 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](#).
- 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 – Computer networks and security

	Bachelor of Electrical and Computer Systems Engineering (Honours)		Bachelor of Information Technology		
YEAR 1 Semester 1	Common First Year			FIT1047 Introduction to computer systems networks and security	
YEAR 1 Semester 2				FIT1048 Fundamentals of C++ or FIT1045 Algorithms and programming fundamentals in Python or FIT1051 Programming	
YEAR 2 Semester 1	ENG2005 Advanced engineering mathematics	ECE2071 Computer organisation and programming	FIT2094 Databases	FIT2093 Introduction to cyber security	If two foundation units are required then overload is required for PHS1001 Foundation physics
YEAR 2 Semester 2	ECE2191 Probability models in engineering	ECE2072 Digital systems	FIT1049 IT professional practice	FIT2100 Operating systems	
YEAR 3 Semester 1	ECE3073 Computer systems	ECE2131 Electrical circuits	FIT elective	FIT2001 Systems development or FIT2099 Object-oriented design and implementation	
YEAR 3 Semester 2	ECE2111 Signals and systems	ECE3121 Engineering electromagnetics <small>Replace ECE3121 with ECE3122 in 2024</small>	FIT2002 IT project management	FIT elective	
YEAR 4 Semester 1	ECE3161 Analogue electronics	ECE3141 Information and networks	FIT3173 Software security	FIT3165 Computer networks	
YEAR 4 Semester 2	ECE4132 Control system design	Level 4 or 5 ECE-coded core elective	FIT3031 Network security	FIT2081 Mobile applications development or FIT3142 Distributed computing	
YEAR 5 Semester 1	ENG4701 Final year project A	ECE3051 Electrical energy systems	ECE4099 Professional practice	FIT3047 IE Studio project 1	ENG0001 Continuous Professional Development (0 credit points)
YEAR 5 Semester 2	ENG4702 Final year project B	ECE4191 Engineering integrated design	Level 4 or 5 ECE-coded core elective	FIT3048 IE Studio project 2	

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

Engineering specialisation - Software engineering; IT major – Computer Networks and Security

	Bachelor of Software Engineering (Honours)		Bachelor of Information Technology		
YEAR 1 Semester 1	Common First Year			FIT1047 Introduction to computer systems, networks and security	
YEAR 1 Semester 2				FIT1048 Fundamentals of C++ or FIT1045 Algorithms and programming fundamentals in Python or FIT1051 Programming fundamentals in Java	
YEAR 2 Semester 1	MAT1830 Discrete mathematics for computer science	FIT2085 Introduction to computer science	FIT2094 Databases	FIT2093 Introduction to cyber security	If two foundation units are required then overload is required for PHS1001 Foundation physics
YEAR 2 Semester 2	FIT2004 Algorithms and data structures	FIT2101 Software engineering process and management	FIT1049 IT professional practice	FIT elective	
YEAR 3 Semester 1	FIT3159 Computer architecture	FIT2099 Object oriented design and implementation	FIT elective	FIT2001 Systems development	
YEAR 3 Semester 2	FIT2107 Software quality and testing	FIT2100 Operating systems	FIT2002 IT project management	FIT elective	
YEAR 4 Semester 1	FIT3170 Software engineering practice (12 points)	FIT3077 Software engineering: architecture and design	FIT3173 Software security	FIT2081 Mobile applications development	
YEAR 4 Semester 2		Level 3 or 4 software engineering technical elective	FIT3031 Network security	FIT3142 Distributed computing	
YEAR 5 Semester 1	FIT4002 Software engineering industry experience studio project (12 points)	FIT4003 Software engineering research project <small>Replace with FIT4701 from 2023</small>	FIT4165 Computer networks	FIT3047 IE Studio project 1	ENG0001 Continuous Professional Development (0 credit points)
YEAR 5 Semester 2		<small>Replace with FIT4702 from 2023</small>	Level 4 or 5 software engineering core elective	FIT3048 IE Studio project 2	

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