MONASH University

Course progression map for 2019 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. Last update: 18 December 2023

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

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	FIT1045 Algorithms and programming fundamentals in Python
	2	ENG1002 Engineering design: cleaner, safer, smarter	ENG1003 Engineering mobile apps	First year engineering elective unit	FIT1008 Introduction to computer science
Tip: You can swap the semesters of your engineering elective and FIT1045.					

If you need to enrol in foundation physics and maths*:					
1	1	ENG1002 Engineering design: cleaner, safer, smarter	PHS1001 Foundation physics	ENG1090 Foundation mathematics	FIT1045 Algorithms and programming fundamentals in Python
	2	ENG1003 Engineering mobile apps	ENG1005 Engineering mathematics	ENG1060 Computing for engineers	FIT1008 Introduction to computer science

1. Double degree students requiring two foundation units 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.
2. Students wanting to complete Software Engineering must complete ENG1003 Engineering mobile apps in Year 1 (Semester 1) and PHYS1001 Foundation physics in Year 2 (Semester 1) as an overload.

If you need to enrol in foundation maths:					
1	1	ENG1002 Engineering design: cleaner, safer, smarter	ENG1003 Engineering mobile apps	ENG1090 Foundation mathematics	FIT1045 Algorithms and programming fundamentals in Python
	2	ENG1001 Engineering design: lighter, faster, stronger	ENG1005 Engineering mathematics	ENG1060 Computing for engineers	FIT1008 Introduction to computer science
Tip: You can swap the semesters of ENG1003 and FIT1008.					

If you need to enrol in foundation physics:					
1	1	ENG1002 Engineering design: cleaner, safer, smarter	ENG1003 Engineering mobile apps	PHS1001 Foundation physics	FIT1045 Algorithms and programming fundamentals in Python
	2	ENG1001 Engineering design: lighter, faster, stronger	ENG1005 Engineering mathematics	ENG1060 Computing for engineers	FIT1008 Introduction to computer science
Tip: You can swap the semesters of ENG1003 and FIT1008.					

Note:

- All students 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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E3010 Bachelor of Engineering (Honours) and Bachelor of Computer Science

Specialisation - Electrical and Computer Systems Engineering and Advanced Computer Science

	Bachelor of Electrical and Computer Systems Engineering (Honours)		Bachelor of Computer Science		
YEAR 1 Semester 1	**Common first year**			FIT1045 Algorithms and programming fundamentals in Python	
YEAR 1 Semester 2				FIT1008 Introduction to computer science	
YEAR 2 Semester 1	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 ENG1001 Engineering design: lighter, faster, stronger
YEAR 2 Semester 2	ECE2191 Probability models in engineering	ECE2072 Digital systems	FIT1049 IT professional practice	FIT elective	
YEAR 3 Semester 1	ECE3073 Computer systems	ECE2131 Electrical circuits	FIT2004 Algorithms and data structures	FIT2099 Object-oriented design and implementation	
YEAR 3 Semester 2	ECE2111 Signals and systems	ECE3121 Engineering electromagnetics Replace ECE3121 with ECE3122 in 2024	FIT2014 Theory of computation	FIT2102 Programming paradigms	
YEAR 4 Semester 1	ECE3161 Analogue electronics	ECE3141 Information and networks	FIT3171 Databases	Level 3 computer science approved elective	
YEAR 4 Semester 2	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	ECE4094 Project A Replace with ENG4701 from 2022.	ECE3051 Electrical energy systems	ECE4099 Professional practice	FIT3161 Computer science project 1	ENG0001 Continuous Professional Development (0 credit points)
YEAR 5 Semester 2	ECE4095 Project B Replace with ENG4702 from 2022	ECE3091 Engineering design Replace with ECE4191 from 2022	Level 4 or 5 ECE-coded core elective	FIT3162 Computer science project 2	

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

Specialisation - Software Engineering and Advanced Computer Science

	Bachelor of Software Engineering (Honours)		Bachelor of Computer Science		
YEAR 1 Semester 1	**Common first year**			FIT1045 Algorithms and programming fundamentals in Python	
YEAR 1 Semester 2				FIT1008 Introduction to computer science	
YEAR 2 Semester 1	MAT1830 Discrete mathematics for computer science	Software engineering approved elective	FIT1047 Introduction to computer systems, networks and security	FIT elective	If two foundation units are required then overload is required for ENG1001 Engineering design: lighter, faster, stronger
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	Level 2 FIT elective	Any level 3 unit from list B of the advanced computer science specialisation	
YEAR 3 Semester 2	FIT2107 Software quality and testing	FIT2100 Operating systems	FIT2014 Theory of computation	FIT2102 Programming paradigms	
YEAR 4 Semester 1	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		FIT3171 Databases	FIT3155 Advanced data structures and algorithms	FIT3143 Parallel computing	
YEAR 5 Semester 1	FIT4002 Software engineering industry experience studio project (12 points)	FIT4003 Software engineering research project Replace with FIT4701 from 2023	FIT4165 Computer networks	FIT3161 Computer science project 1	ENG0001 Continuous Professional Development (0 credit points)
YEAR 5 Semester 2		Replace with FIT4702 from 2023	Level 4 or 5 software engineering core elective	FIT3162 Computer science project 2	

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