

Course progression map for 2021 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: 5 November 2020

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 | Level one 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 |

You must complete ENG1003 Engineering mobile apps in Year 1 and take ENG1001 Engineering design: lighter, faster, stronger 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.

| 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:

- 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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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 | If two foundation units are required, then overload is required for ENG1001 Engineering design: Lighter, faster, stronger | |
| 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 | | |
| 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 | FIT2014 Theory of computation | FIT2102 Programming paradigms | | |
| YEAR 4 Semester 1 | ECE3161 Analogue electronics | ECE3141 Information and networks | FIT3171 Databases | Level three computer science approved elective | | |
| YEAR 4 Semester 2 | ECE3091 Engineering design | Level four ECSE technical elective | FIT3155 Advanced data structures and algorithms | FIT3143 Parallel computing | | |
| YEAR 5 Semester 1 | ECE3051 Electrical energy systems | ECE4094 Project A | Level four ECSE technical elective | FIT3161 Computer science project 1 | | ENG0001 Continuous Professional Development (0 credit points) |
| YEAR 5 Semester 2 | ECE4132 Control system design | ECE4095 Project B | ECE4099 Professional practice | 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 | If two foundation units are required then overload is required for ENG1001 Engineering design: Lighter, faster, stronger | |
| 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 | | |
| 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 two FIT elective | Any level three 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 three computer science approved elective | Level three 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) | FIT4165 Computer networks | Level four (or above) software engineering technical elective | FIT3161 Computer science project 1 | | ENG0001 Continuous Professional Development (0 credit points) |
| YEAR 5 Semester 2 | | FIT4003 Software engineering research project (12 points) | FIT3162 Computer science project 2 | | | |

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