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: 25 August 2020

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

Common first year

<table>
<thead>
<tr>
<th>Year</th>
<th>Sem</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>ENG1001 Engineering design: lighter, faster, stronger</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td>ENG1002 Engineering design: cleaner, safer, smarter</td>
</tr>
</tbody>
</table>

Tip: You can swap the semesters of your engineering elective and FIT1045.

If you need to enrol in foundation physics and maths*:

<table>
<thead>
<tr>
<th>Year</th>
<th>Sem</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>ENG1002 Engineering design: cleaner, safer, smarter</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td>ENG1003 Engineering mobile apps</td>
</tr>
</tbody>
</table>

1. 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.
2. If you want to complete Software Engineering, you must complete ENG1003 Engineering mobile apps in Year 1 (Semester 1) and PHS1001 Foundation physics in Year 2 (Semester 1) as an overload.

If you need to enrol in foundation maths:

<table>
<thead>
<tr>
<th>Year</th>
<th>Sem</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
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<td>ENG1002 Engineering design: cleaner, safer, smarter</td>
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<tr>
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<td>1</td>
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</tbody>
</table>

Tip: You can swap the semesters of ENG1003 and FIT1008.

If you need to enrol in foundation physics:

<table>
<thead>
<tr>
<th>Year</th>
<th>Sem</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
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Tip: You can swap the semesters of ENG1003 and FIT1008.

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

Specialisation - Electrical and Computer Systems Engineering and Advanced Computer Science

<table>
<thead>
<tr>
<th>Year 1 Semester 1</th>
<th>Bachelor of Electrical and Computer Systems Engineering (Honours)</th>
<th>Bachelor of Computer Science</th>
</tr>
</thead>
<tbody>
<tr>
<td>Common year</td>
<td>FIT1045 Algorithms and programming fundamentals in Python</td>
<td>FIT1008 Introduction to computer science</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Year 1 Semester 2</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ENG2005 Advanced engineering mathematics</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ECE2071 Computer organisation and programming</td>
<td>MAT1830 Discrete mathematics for computer science</td>
</tr>
<tr>
<td></td>
<td>FIT1047 Introduction to computer systems, networks and security</td>
<td>If two foundation units are required then overload is required for ENG1001 Engineering design: lighter, faster, stronger</td>
</tr>
<tr>
<td></td>
<td>FIT1049 IT professional practice</td>
<td></td>
</tr>
<tr>
<td></td>
<td>FIT elective</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Year 2 Semester 1</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ECE2191 Probability models in engineering</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ECE2072 Digital systems</td>
<td></td>
</tr>
<tr>
<td></td>
<td>FIT1049 IT professional practice</td>
<td></td>
</tr>
<tr>
<td></td>
<td>FIT elective</td>
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</table>

<table>
<thead>
<tr>
<th>Year 2 Semester 2</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ECE3073 Computer systems</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ECE2131 Electrical circuits</td>
<td></td>
</tr>
<tr>
<td></td>
<td>FIT2004 Algorithms and data structures</td>
<td></td>
</tr>
<tr>
<td></td>
<td>FIT2099 Object-oriented design and implementation</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Year 3 Semester 1</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ECE3161 Analogue electronics</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ECE3141 Information and networks</td>
<td></td>
</tr>
<tr>
<td></td>
<td>FIT3171 Databases</td>
<td></td>
</tr>
<tr>
<td></td>
<td>FIT2102 Programming paradigms</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Year 3 Semester 2</th>
<th></th>
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</thead>
<tbody>
<tr>
<td></td>
<td>ECE3091 Engineering design</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Level four ECSE technical elective</td>
<td></td>
</tr>
<tr>
<td></td>
<td>FIT3155 Advanced data structures and algorithms</td>
<td></td>
</tr>
<tr>
<td></td>
<td>FIT3143 Parallel computing</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Year 4 Semester 1</th>
<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td></td>
<td>ECE3051 Electrical energy systems</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ECE4094 Project A</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ECE4099 Professional practice</td>
<td></td>
</tr>
<tr>
<td></td>
<td>FIT3161 Computer science project 1</td>
<td>ENG0001 Continuous Professional Development (0 credit points)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Year 4 Semester 2</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ECE4132 Control system design</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ECE4095 Project B</td>
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</tr>
<tr>
<td></td>
<td>Level four ECSE technical elective</td>
<td></td>
</tr>
<tr>
<td></td>
<td>FIT3162 Computer science project 2</td>
<td></td>
</tr>
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Specialisation - Software Engineering and Advanced Computer Science

<table>
<thead>
<tr>
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<th>Semester 1</th>
<th>Bachelor of Software Engineering (Honours)</th>
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<tbody>
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<td>Semester 2</td>
<td>FIT1008 Introduction to computer science</td>
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<tr>
<td>YEAR 2</td>
<td>Semester 1</td>
<td>MAT1830 Discrete mathematics for computer science</td>
<td>FIT elective</td>
</tr>
<tr>
<td></td>
<td>Semester 2</td>
<td>FIT2004 Algorithms and data structures</td>
<td>FIT elective</td>
</tr>
<tr>
<td>YEAR 3</td>
<td>Semester 1</td>
<td>FIT3159 Computer architecture</td>
<td>FIT2009 Object oriented design and implementation</td>
</tr>
<tr>
<td></td>
<td>Semester 2</td>
<td>FIT2101 Software engineering process and management</td>
<td>Level two FIT elective</td>
</tr>
<tr>
<td>YEAR 4</td>
<td>Semester 1</td>
<td>FIT3170 Software engineering practice (12 points)</td>
<td>FIT3077 Software engineering: architecture and design</td>
</tr>
<tr>
<td></td>
<td>Semester 2</td>
<td>FIT3171 Databases</td>
<td>FIT3155 Advanced data structures and algorithms</td>
</tr>
<tr>
<td>YEAR 5</td>
<td>Semester 1</td>
<td>FIT4002 Software engineering industry experience studio project (12 points)</td>
<td>FIT4165 Computer networks</td>
</tr>
<tr>
<td></td>
<td>Semester 2</td>
<td>FIT4003 Software engineering research project (12 points)</td>
<td>FIT3161 Computer science project 1</td>
</tr>
<tr>
<td></td>
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<td>FIT3162 Computer science project 2</td>
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