

# 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

## E3004 Bachelor of Engineering (Honours) and Bachelor of Biomedical Science

### Common first year

If no foundation units are required:					
Year	Sem	Units			
1	1	<a href="#">ENG1001</a> Engineering design: lighter, faster, stronger	<a href="#">ENG1005</a> Engineering mathematics	<a href="#">ENG1060</a> Computing for engineers	<a href="#">BMS1011</a> Biomedical chemistry
	2	<a href="#">ENG1002</a> Engineering design: cleaner, safer, smarter	<a href="#">ENG1003</a> Engineering mobile apps	<a href="#">First year engineering elective unit</a>	<a href="#">BMS1062</a> Molecular biology

If you need to enrol in foundation physics and maths*:					
1	1	<a href="#">ENG1002</a> Engineering design: cleaner, safer, smarter	<a href="#">PHS1001</a> Foundation physics	<a href="#">ENG1090</a> Foundation mathematics	<a href="#">BMS1011</a> Biomedical chemistry
	2	<a href="#">ENG1001</a> Engineering design: lighter, faster, stronger	<a href="#">ENG1005</a> Engineering mathematics	<a href="#">ENG1060</a> Computing for engineers	<a href="#">BMS1062</a> Molecular biology
* If you require two foundation units, you will need to take the remaining core unit ENG1003 Engineering mobile apps in semester one of year two as an overload, and increase the total credit points needed for the double by 6 points					

If you need to enrol in foundation maths:					
1	1	<a href="#">ENG1002</a> Engineering design: cleaner, safer, smarter	<a href="#">ENG1003</a> Engineering mobile apps	<a href="#">ENG1090</a> Foundation mathematics	<a href="#">BMS1011</a> Biomedical chemistry
	2	<a href="#">ENG1001</a> Engineering design: lighter, faster, stronger	<a href="#">ENG1005</a> Engineering mathematics	<a href="#">ENG1060</a> Computing for engineers	<a href="#">BMS1062</a> Molecular biology

If you need to enrol in foundation physics:					
1	1	<a href="#">ENG1002</a> Engineering design: cleaner, safer, smarter	<a href="#">ENG1003</a> Engineering mobile apps	<a href="#">PHS1001</a> Foundation physics	<a href="#">BMS1011</a> Biomedical chemistry
	2	<a href="#">ENG1001</a> Engineering design: lighter, faster, stronger	<a href="#">ENG1005</a> Engineering mathematics	<a href="#">ENG1060</a> Computing for engineers	<a href="#">BMS1062</a> Molecular biology

Note:

- You cannot swap the semesters of any of the units.
- 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](#).
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## E3004 Bachelor of Engineering (Honours) and Bachelor of Biomedical Science

### Specialisation - Chemical Engineering

	Bachelor of Chemical Engineering (Honours)		Bachelor of Biomedical Science	
<b>YEAR 1</b> Semester 1	<b>Common first year</b>			<a href="#">BMS1011</a> Biomedical chemistry
<b>YEAR 1</b> Semester 2				<a href="#">BMS1062</a> Molecular biology
<b>YEAR 2</b> Semester 1	<a href="#">ENG2005</a> Advanced engineering mathematics	<a href="#">CHM1011</a> Chemistry 1 or <a href="#">CHM1051</a> Chemistry 1 Advanced	<a href="#">BMS1031</a> Medical biophysics	<a href="#">BMS1021</a> Cells, tissues and organisms
<b>YEAR 2</b> Semester 2	<a href="#">CHE2162</a> Material and energy balances	<a href="#">CHE2161</a> Mechanics of fluids	<a href="#">BMS1042</a> Public health and preventive medicine	<a href="#">BMS1052</a> Human neurobiology
<b>YEAR 3</b> Semester 1	<a href="#">CHE2164</a> Thermodynamics 1	<a href="#">BMS2021</a> Human molecular biology	<a href="#">BMS2011</a> Structure of the human body	<a href="#">BMS2031</a> Body systems
<b>YEAR 3</b> Semester 2	<a href="#">CHE2163</a> Heat and mass transfer	<a href="#">BMS2042</a> Human genetics	<a href="#">BMS2052</a> Microbes in health and diseases	<a href="#">BMS2062</a> Introduction to bioinformatics
<b>YEAR 4</b> Semester 1	<a href="#">CHE3161</a> Chemistry and chemical thermodynamics	<a href="#">CHE3165</a> Separation processes	<a href="#">BMS3031</a> Molecular mechanisms of disease	
<b>YEAR 4</b> Semester 2	<a href="#">CHE3166</a> Process design	<a href="#">CHE3164</a> Reaction engineering	<a href="#">BMS3052</a> Biomedical basis and epidemiology of human disease	
<b>YEAR 5</b> Semester 1	<a href="#">ENG4701</a> Final year project A	<a href="#">CHE4162</a> Particle technology	<a href="#">CHE4161</a> Engineer in society	<a href="#">CHE3167</a> Transport phenomena and numerical methods
<b>YEAR 5</b> Semester 2	<a href="#">ENG4702</a> Final year project B	<a href="#">CHE4170</a> Design project (12 points)		<a href="#">CHE3162</a> Process control

Note:

- [CHE4164](#) and [CHE4165](#) are integrated industrial project units for select students only. The units are undertaken in place of the final year project units [ENG4701](#) and [ENG4702](#). Depending on placement location, you may have to overload a semester or extend an additional semester in order to complete your course.
- [CHE4170](#) - You should not overload in the semester when undertaking this unit.
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## E3004 Bachelor of Engineering (Honours) and Bachelor of Biomedical Science

### Specialisation - Civil Engineering

	Bachelor of Civil Engineering (Honours)		Bachelor of Biomedical Science	
<b>YEAR 1</b> Semester 1	<b>Common first year</b>			<a href="#">BMS1011</a> Biomedical chemistry
<b>YEAR 1</b> Semester 2				<a href="#">BMS1062</a> Molecular biology
<b>YEAR 2</b> Semester 1	<a href="#">CIV2282</a> Transport and traffic engineering	<a href="#">CIV2206</a> Structural mechanics	<a href="#">BMS1031</a> Medical biophysics	<a href="#">BMS1021</a> Cells, tissues and organisms
<b>YEAR 2</b> Semester 2	<a href="#">CIV2242</a> Geomechanics 1	<a href="#">ENG2005</a> Advanced engineering mathematics	<a href="#">BMS1042</a> Public health and preventive medicine	<a href="#">BMS1052</a> Human neurobiology
<b>YEAR 3</b> Semester 1	<a href="#">CIV2263</a> Water systems	<a href="#">BMS2021</a> Human molecular biology	<a href="#">BMS2011</a> Structure of the human body	<a href="#">BMS2031</a> Body systems
<b>YEAR 3</b> Semester 2	<a href="#">CIV2235</a> Structural materials	<a href="#">BMS2042</a> Human genetics	<a href="#">BMS2052</a> Microbes in health and diseases	<a href="#">BMS2062</a> Introduction to bioinformatics
<b>YEAR 4</b> Semester 1	<a href="#">CIV3248</a> Groundwater and environmental geomechanics	<a href="#">CIV3294</a> Structural design	<a href="#">BMS3031</a> Molecular mechanisms of disease	
<b>YEAR 4</b> Semester 2	<a href="#">CIV3247</a> Geomechanics 2	<a href="#">CIV3283</a> Road engineering	<a href="#">BMS3052</a> Biomedical basis and epidemiology of human disease	
<b>YEAR 5</b> Semester 1	<a href="#">ENG4701</a> Final year project A	<a href="#">CIV3285</a> Engineering hydrology	<a href="#">CIV4286</a> Project management for civil engineers	<a href="#">CIV4280</a> Bridge design and assessment
<b>YEAR 5</b> Semester 2	<a href="#">ENG4702</a> Final year project B	<a href="#">CIV4212</a> Civil and environmental engineering practice	<a href="#">CIV3221</a> Building structures and technology	<a href="#">CIV4288</a> Water treatment

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## E3004 Bachelor of Engineering (Honours) and Bachelor of Biomedical Science

### Specialisation - Electrical and Computer Systems Engineering

	Bachelor of Electrical and Computer Systems Engineering (Honours)		Bachelor of Biomedical Science	
<b>YEAR 1</b> Semester 1	Common first year			<a href="#">BMS1011</a> Biomedical chemistry
<b>YEAR 1</b> Semester 2				<a href="#">BMS1062</a> Molecular biology
<b>YEAR 2</b> Semester 1	<a href="#">ENG2005</a> Advanced engineering mathematics	<a href="#">ECE2071</a> Computer organisation and programming	<a href="#">BMS1031</a> Medical biophysics	<a href="#">BMS1021</a> Cells, tissues and organisms
<b>YEAR 2</b> Semester 2	<a href="#">ECE2191</a> Probability models in engineering	<a href="#">ECE2072</a> Digital systems	<a href="#">BMS1042</a> Public health and preventive medicine	<a href="#">BMS1052</a> Human neurobiology
<b>YEAR 3</b> Semester 1	<a href="#">ECE2131</a> Electrical circuits	<a href="#">BMS2021</a> Human molecular biology	<a href="#">BMS2011</a> Structure of the human body	<a href="#">BMS2031</a> Body systems
<b>YEAR 3</b> Semester 2	<a href="#">ECE2111</a> Signals and systems	<a href="#">BMS2042</a> Human genetics	<a href="#">BMS2052</a> Microbes in health and diseases	<a href="#">BMS2062</a> Introduction to bioinformatics
<b>YEAR 4</b> Semester 1	<a href="#">ECE3073</a> Computer systems	<a href="#">ECE3141</a> Information and networks	<a href="#">BMS3031</a> Molecular mechanisms of disease	
<b>YEAR 4</b> Semester 2	<a href="#">ECE4132</a> Control system design	ECE3121 Engineering electromagnetics <small>Replace ECE3121 with <a href="#">ECE3122</a> in 2024</small>	<a href="#">BMS3052</a> Biomedical basis and epidemiology of human disease	
<b>YEAR 5</b> Semester 1	<a href="#">ENG4701</a> Final year project A	<a href="#">ECE3161</a> Analogue electronics	<a href="#">Level 4 or 5 ECE-coded core elective</a>	<a href="#">ECE3051</a> Electrical energy systems
<b>YEAR 5</b> Semester 2	<a href="#">ENG4702</a> Final year project B	<a href="#">Level 4 or 5 ECE-coded core elective</a>	<a href="#">ECE4191</a> Engineering integrated design	<a href="#">ECE4099</a> Professional Practice

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## E3004 Bachelor of Engineering (Honours) and Bachelor of Biomedical Science

### Specialisation - Materials Engineering

	Bachelor of Materials Engineering (Honours)		Bachelor of Biomedical Science	
<b>YEAR 1</b> Semester 1	<b>Common first year</b>			<a href="#">BMS1011</a> Biomedical chemistry
<b>YEAR 1</b> Semester 2				<a href="#">BMS1062</a> Molecular biology
<b>YEAR 2</b> Semester 1	<a href="#">MTE2101</a> Atomic-scale structure of materials	<a href="#">MTE2102</a> Phase equilibria and phase transformations	<a href="#">BMS1031</a> Medical biophysics	<a href="#">BMS1021</a> Cells, tissues and organisms
<b>YEAR 2</b> Semester 2	<a href="#">MTE2202</a> Functional materials 1	<a href="#">ENG2005</a> Advanced engineering mathematics	<a href="#">BMS1042</a> Public health and preventive medicine	<a href="#">BMS1052</a> Human neurobiology
<b>YEAR 3</b> Semester 1	<a href="#">MTE2103</a> Mechanical properties of materials	<a href="#">BMS2021</a> Human molecular biology	<a href="#">BMS2011</a> Structure of the human body	<a href="#">BMS2031</a> Body systems
<b>YEAR 3</b> Semester 2	<a href="#">MTE2201</a> Polymers	<a href="#">BMS2042</a> Human genetics	<a href="#">BMS2052</a> Microbes in health and diseases	<a href="#">BMS2062</a> Introduction to bioinformatics
<b>YEAR 4</b> Semester 1	<a href="#">MTE3102</a> Plasticity of metals and alloys	<a href="#">MTE3101</a> Materials in a complex world 1: People, projects and data	<a href="#">BMS3031</a> Molecular mechanisms of disease	
<b>YEAR 4</b> Semester 2	<a href="#">MTE3203</a> Introduction to ceramics: Properties, processing and applications	<a href="#">MTE3201</a> Materials in a complex world 2: Characterisation, identification and selection	<a href="#">BMS3052</a> Biomedical basis and epidemiology of human disease	
<b>YEAR 5</b> Semester 1	<a href="#">ENG4701</a> Final year project A	<a href="#">MTE4101</a> Integrated design project	<a href="#">MTE4102</a> Advanced materials processing and manufacturing	<a href="#">MTE3103</a> Materials life cycle
<b>YEAR 5</b> Semester 2	<a href="#">ENG4702</a> Final year project B	<a href="#">MTE4201</a> Materials in a complex world 3: Impact in society	<a href="#">Level 4 or 5 MTE-coded materials engineering core elective</a>	<a href="#">MTE3202</a> Functional materials 2

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### Specialisation - Mechanical Engineering

	Bachelor of Mechanical Engineering (Honours)		Bachelor of Biomedical Science	
<b>YEAR 1</b> Semester 1	<b>Common first year</b>			<a href="#">BMS1011</a> Biomedical chemistry
<b>YEAR 1</b> Semester 2				<a href="#">BMS1062</a> Molecular biology
<b>YEAR 2</b> Semester 1	<a href="#">MEC2403</a> Mechanics of materials	<a href="#">MEC2401</a> Dynamics 1	<a href="#">BMS1031</a> Medical biophysics	<a href="#">BMS1021</a> Cells, tissues and organisms
<b>YEAR 2</b> Semester 2	<a href="#">MEC2404</a> Mechanics of fluids	<a href="#">ENG2005</a> Advanced engineering mathematics	<a href="#">BMS1042</a> Public health and preventive medicine	<a href="#">BMS1052</a> Human neurobiology
<b>YEAR 3</b> Semester 1	<a href="#">MEC2402</a> Design methods	<a href="#">BMS2021</a> Human molecular biology	<a href="#">BMS2011</a> Structure of the human body	<a href="#">BMS2031</a> Body systems
<b>YEAR 3</b> Semester 2	<a href="#">MEC2405</a> Thermodynamics	<a href="#">BMS2042</a> Human genetics	<a href="#">BMS2052</a> Microbes in health and diseases	<a href="#">BMS2062</a> Introduction to bioinformatics
<b>YEAR 4</b> Semester 1	<a href="#">MEC3451</a> Fluid mechanics 2	<a href="#">MEC3456</a> Engineering computational analysis	<a href="#">BMS3031</a> Molecular mechanisms of disease	
<b>YEAR 4</b> Semester 2	<a href="#">MEC3416</a> Machine design	<a href="#">MEC3457</a> Systems and control	<a href="#">BMS3052</a> Biomedical basis and epidemiology of human disease	
<b>YEAR 5</b> Semester 1	<a href="#">ENG4701</a> Final year project A	<a href="#">MEC4408</a> Thermodynamics and heat transfer	<a href="#">MEC3455</a> Solid Mechanics	<a href="#">MEC4404</a> Professional practice
<b>YEAR 5</b> Semester 2	<a href="#">ENG4702</a> Final year project B	<a href="#">MEC4426</a> Computer-aided design	<a href="#">MEC3453</a> Dynamics 2	<a href="#">MEC4407</a> Design project

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