

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: 18 November 2020

E3004 Bachelor of Engineering (Honours) and Bachelor of Biomedical 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	BMS1011 Biomedical chemistry
	2	ENG1002 Engineering design: cleaner, safer, smarter	ENG1003 Engineering mobile apps	Level one engineering elective unit	BMS1062 Molecular biology

If you need to enrol in foundation physics and maths*:					
1	1	ENG1002 Engineering design: cleaner, safer, smarter	PHS1001 Foundation physics	ENG1090 Foundation mathematics	BMS1011 Biomedical chemistry
	2	ENG1001 Engineering design: lighter, faster, stronger	ENG1005 Engineering mathematics	ENG1060 Computing for engineers	BMS1062 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	ENG1002 Engineering design: cleaner, safer, smarter	ENG1003 Engineering mobile apps	ENG1090 Foundation mathematics	BMS1011 Biomedical chemistry
	2	ENG1001 Engineering design: lighter, faster, stronger	ENG1005 Engineering mathematics	ENG1060 Computing for engineers	BMS1062 Molecular biology

If you need to enrol in foundation physics:					
1	1	ENG1002 Engineering design: cleaner, safer, smarter	ENG1003 Engineering mobile apps	PHS1001 Foundation physics	BMS1011 Biomedical chemistry
	2	ENG1001 Engineering design: lighter, faster, stronger	ENG1005 Engineering mathematics	ENG1060 Computing for engineers	BMS1062 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			
YEAR 1 Semester 1	Common first year			BMS1011 Biomedical chemistry	
YEAR 1 Semester 2				BMS1062 Molecular biology	
YEAR 2 Semester 1	ENG2005 Advanced engineering mathematics	CHM1011 Chemistry 1 (if not already completed at level 1) or CHM1051 Chemistry 1 Advanced	BMS1031 Medical biophysics	BMS1021 Cells, tissues and organisms	If two foundation units are required then overload is required for ENG1003 Engineering mobile apps
YEAR 2 Semester 2	CHE2162 Material and energy balances	CHE2161 Mechanics of fluids	BMS1042 Public health and preventive medicine	BMS1052 Human neurobiology	
YEAR 3 Semester 1	CHE2164 Thermodynamics 1	BMS2021 Human molecular biology	BMS2011 Structure of the human body	BMS2031 Body systems	
YEAR 3 Semester 2	CHE2163 Heat and mass transfer	BMS2042 Human genetics	BMS2052 Microbes in health and diseases	BMS2062 Introduction to bioinformatics	
YEAR 4 Semester 1	CHE3161 Chemistry and chemical thermodynamics	CHE3165 Separation processes	BMS3031 Molecular mechanisms of disease		
YEAR 4 Semester 2	CHE3166 Process design	CHE3164 Reaction engineering	BMS3052 Biomedical basis and epidemiology of human disease		
YEAR 5 Semester 1	CHE4164 Integrated industrial project (18 points) For selected students taking a period of integrated industrial training in the first semester of their final year. This will replace the three core units below [CHE4181, CHE4182 and CHE4161]			ENG0001 Continuous Professional Development (0 credit points)	
OR					
YEAR 5 Semester 1	CHE4181 Chemical engineering project A	CHE4162 Particle technology	CHE4161 Engineer in society		CHE3167 Transport phenomena and numerical methods
YEAR 5 Semester 2	CHE4182 Chemical engineering project B	CHE4170 Design project (12 points)		CHE3162 Process control	

Note:

- If you choose CHE4164 and depending on placement location, you may have to overload a semester or extend an additional semester in order to complete your course requirement.
- You should not overload in the semester of undertaking CHE4170
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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			
YEAR 1 Semester 1	Common first year			BMS1011 Biomedical chemistry	If two foundation units are required then overload is required for ENG1003 Engineering mobile apps	
YEAR 1 Semester 2				BMS1062 Molecular biology		
YEAR 2 Semester 1	CIV2282 Transport and traffic engineering	CIV2206 Structural mechanics	BMS1031 Medical biophysics	BMS1021 Cells, tissues and organisms		
YEAR 2 Semester 2	CIV2242 Geomechanics 1	ENG2005 Advanced engineering mathematics	BMS1042 Public health and preventive medicine	BMS1052 Human neurobiology		
YEAR 3 Semester 1	CIV2263 Water systems	BMS2021 Human molecular biology	BMS2011 Structure of the human body	BMS2031 Body systems		
YEAR 3 Semester 2	CIV2235 Structural materials	BMS2042 Human genetics	BMS2052 Microbes in health and diseases	BMS2062 Introduction to bioinformatics		
YEAR 4 Semester 1	CIV3248 Groundwater and environmental geomechanics	CIV3294 Structural design	BMS3031 Molecular mechanisms of disease			
YEAR 4 Semester 2	CIV3247 Geomechanics 2	CIV3204 Engineering investigation	BMS3052 Biomedical basis and epidemiology of human disease			
YEAR 5 Semester 1	CIV3285 Engineering hydrology	CIV4210 Project A	CIV4286 Project management for civil engineers	CIV4280 Bridge design and assessment		ENG0001 Continuous Professional Development (0 credit points)
YEAR 5 Semester 2	CIV3221 Building structures and technology	CIV4212 Civil and environmental engineering practice	CIV4287 Road engineering	CIV4288 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			
YEAR 1 Semester 1	Common first year			BMS1011 Biomedical chemistry	If two foundation units are required then overload is required for ENG1003 Engineering mobile apps	
YEAR 1 Semester 2				BMS1062 Molecular biology		
YEAR 2 Semester 1	ENG2005 Advanced engineering mathematics	ECE2071 Computer organisation and programming	BMS1031 Medical biophysics	BMS1021 Cells, tissues and organisms		
YEAR 2 Semester 2	ECE2191 Probability models in engineering	ECE2072 Digital systems	BMS1042 Public health and preventive medicine	BMS1052 Human neurobiology		
YEAR 3 Semester 1	ECE2131 Electrical circuits	BMS2021 Human molecular biology	BMS2011 Structure of the human body	BMS2031 Body systems		
YEAR 3 Semester 2	ECE2111 Signals and systems	BMS2042 Human genetics	BMS2052 Microbes in health and diseases	BMS2062 Introduction to bioinformatics		
YEAR 4 Semester 1	ECE3073 Computer systems	ECE3141 Information and networks	BMS3031 Molecular mechanisms of disease			
YEAR 4 Semester 2	ECE3091 Engineering design	ECE3121 Engineering electromagnetics	BMS3052 Biomedical basis and epidemiology of human disease			
YEAR 5 Semester 1	ECE3161 Analogue electronics	ECE4094 Project A	ECE3051 Electrical energy systems	ECSE technical elective at level 4		ENG0001 Continuous Professional Development (0 credit points)
YEAR 5 Semester 2	ECSE technical elective at level 4	ECE4095 Project B	ECE4132 Control system design	ECE4099 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				
YEAR 1 Semester 1	Common first year				BMS1011 Biomedical chemistry	
YEAR 1 Semester 2					BMS1062 Molecular biology	
YEAR 2 Semester 1	MTE2101 Atomic- scale structure of materials	MTE2102 Phase equilibria and phase transformations	BMS1031 Medical biophysics	BMS1021 Cells, tissues and organisms	If two foundation units are required then overload is required for ENG1003 Engineering mobile apps	
YEAR 2 Semester 2	MTE2202 Functional materials 1	ENG2005 Advanced engineering mathematics	BMS1042 Public health and preventive medicine	BMS1052 Human neurobiology		
YEAR 3 Semester 1	MTE2103 Mechanical properties of materials	BMS2021 Human molecular biology	BMS2011 Structure of the human body	BMS2031 Body systems		
YEAR 3 Semester 2	MTE2201 Polymers	BMS2042 Human genetics	BMS2052 Microbes in health and diseases	BMS2062 Introduction to bioinformatics		
YEAR 4 Semester 1	MTE3101 Materials in a complex world 1: Data and modelling	MTE3102 Structural materials	BMS3031 Molecular mechanisms of disease			
YEAR 4 Semester 2	MTE3201 Materials in a complex world 2: Characterisation, identification and selection	MTE3202 Functional materials 2	BMS3052 Biomedical basis and epidemiology of human disease			
YEAR 5 Semester 1	MTE4101 Materials in a complex world 3: Design, build and create	MTE4525 Project 1	MTE4102 Advanced materials processing and manufacturing	MTE3103 Materials life-cycle		ENG0001 Continuous Professional Development (0 credit points)
YEAR 5 Semester 2	MTE4201 Materials in a complex world 4: Impact in society	MTE4526 Project 2	Materials technical elective at level 4 or above	MTE3203 Ceramics		

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Specialisation - Mechanical Engineering

	Bachelor of Mechanical Engineering (Honours)		Bachelor of Biomedical Science			
YEAR 1 Semester 1	Common first year			BMS1011 Biomedical chemistry	If two foundation units are required then overload is required for ENG1003 Engineering mobile apps	
YEAR 1 Semester 2				BMS1062 Molecular biology		
YEAR 2 Semester 1	MEC2403 Mechanics of materials	MEC2401 Dynamics 1	BMS1031 Medical biophysics	BMS1021 Cells, tissues and organisms		
YEAR 2 Semester 2	MEC2404 Mechanics of fluids	ENG2005 Advanced engineering mathematics	BMS1042 Public health and preventive medicine	BMS1052 Human neurobiology		
YEAR 3 Semester 1	MEC2402 Design methods	BMS2021 Human molecular biology	BMS2011 Structure of the human body	BMS2031 Body systems		
YEAR 3 Semester 2	MEC2405 Thermodynamics	BMS2042 Human genetics	BMS2052 Microbes in health and diseases	BMS2062 Introduction to bioinformatics		
YEAR 4 Semester 1	MEC3451 Fluid mechanics 2	MEC3456 Engineering computational analysis	BMS3031 Molecular mechanisms of disease			
YEAR 4 Semester 2	MEC3416 Machine design	MEC3457 Systems and control	BMS3052 Biomedical basis and epidemiology of human disease			
YEAR 5 Semester 1	MEC3455 Solid Mechanics	MEC4408 Thermodynamics and heat transfer	MEC4401 Final year project	MEC4404 Professional practice		ENG0001 Continuous Professional Development (0 credit points)
YEAR 5 Semester 2	MEC3453 Dynamics 2	MEC4426 Computer-aided design	MEC4402 Final year project - Thesis	MEC4407 Design project		

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