MONASH University

Course progression map for 2022 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: 26 August 2021

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

Common first year

If no foundation units are required:					
Year	**Period**	**Units**			
1	Sem 1 Feb	ENG1001 Engineering design: lighter, faster, stronger	ENG1005 Engineering mathematics *Required: ENG1090 **	ENG1060 Computing for engineers *Corequisite: ENG1005*	BMS1011 Biomedical chemistry
	Sem 2 July	ENG1002 Engineering design: cleaner, safer, smarter	ENG1003 Engineering mobile apps	First Year engineering technical elective	BMS1062 Molecular biology

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

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

Note:

- * Foundation units: You enrol in the foundation units ENG1090 and/or PHS1001 if you have not completed the Australian Year 12 equivalent to Specialist mathematics and/or Physics.
- The placement of units may be rearranged to support sequencing for double degree courses but care should be taken to ensure sequenced units are maintained in sequence.
- 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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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 February	Common first year			BMS1011 Biomedical chemistry	
YEAR 1 Semester 2 July				BMS1062 Molecular biology	
YEAR 2 Semester 1 February	ENG2005 Advanced engineering mathematics	CHM1011 Chemistry 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 July	CHE2162 Material and energy balances	CHE2161 Mechanics of fluids	BMS1042 Public health and preventive medicine	BMS1052 Human neurobiology	
YEAR 3 Semester 1 February	CHE2164 Thermodynamics 1	BMS2021 Human molecular biology	BMS2011 Structure of the human body	BMS2031 Body systems	
YEAR 3 Semester 2 July	CHE2163 Heat and mass transfer	BMS2042 Human genetics	BMS2052 Microbes in health and diseases	BMS2062 Introduction to bioinformatics	
YEAR 4 Semester 1 February	CHE3161 Chemistry and chemical thermodynamics	CHE3165 Separation processes	BMS3031 Molecular mechanisms of disease		CHE3167 Transport phenomena and numerical methods - You overload in this semester if you enrol in CHE4164
YEAR 4 Semester 2 July	CHE3166 Process design	CHE3164 Reaction engineering	BMS3052 Biomedical basis and epidemiology of human disease		
YEAR 5 Semester 1 February	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 [ENG4701, ENG4702 and CHE4161]				ENG0001 Continuous Professional Development (0 credit points)
YEAR 5 Semester 1 February	ENG4701 Final year project A	CHE4162 Particle technology	CHE4161 Engineer in society	CHE3167 Transport phenomena and numerical methods	
OR					
YEAR 5 Semester 2 July	ENG4702 Final year project B	CHE4170 Design project (12 points)		CHE3162 Process control	

Note:

- CHM1011 or CHM1051 - If you have completed either unit as a First Year technical elective, you must replace the core with another unit from the chemical engineering technical electives list.
- CHE4164 - Depending on placement location, you may have to overload a semester or extend an additional semester in order to complete the course.
- You should not overload in the semester of undertaking CHE4170
- The placement of units may be rearranged to support sequencing for double degree courses but care should be taken to ensure sequenced units are maintained in sequence.
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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 February	Common first year			BMS1011 Biomedical chemistry	
YEAR 1 Semester 2 July				BMS1062 Molecular biology	
YEAR 2 Semester 1 February	CIV2282 Transport and traffic engineering	CIV2206 Structural mechanics	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 July	CIV2242 Geomechanics 1	ENG2005 Advanced engineering mathematics	BMS1042 Public health and preventive medicine	BMS1052 Human neurobiology	
YEAR 3 Semester 1 February	CIV2263 Water systems	BMS2021 Human molecular biology	BMS2011 Structure of the human body	BMS2031 Body systems	
YEAR 3 Semester 2 July	CIV2235 Structural materials	BMS2042 Human genetics	BMS2052 Microbes in health and diseases	BMS2062 Introduction to bioinformatics	
YEAR 4 Semester 1 February	CIV3248 Groundwater and environmental geomechanics	CIV3294 Structural design	BMS3031 Molecular mechanisms of disease		
YEAR 4 Semester 2 July	CIV3247 Geomechanics 2	CIV3204 Engineering investigation	BMS3052 Biomedical basis and epidemiology of human disease		
YEAR 5 Semester 1 February	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 July	CIV3221 Building structures and technology	CIV4212 Civil and environmental engineering practice	CIV4287 Road engineering	CIV4288 Water treatment	

Note:

- The placement of units may be rearranged to support sequencing for double degree courses but care should be taken to ensure sequenced units are maintained in sequence.
- Engineering minors are not available in the double degrees.
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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 February	Common first year			BMS1011 Biomedical chemistry	
YEAR 1 Semester 2 July				BMS1062 Molecular biology	
YEAR 2 Semester 1 February	ENG2005 Advanced engineering mathematics	ECE2071 Computer organisation and programming	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 July	ECE2191 Probability models in engineering	ECE2072 Digital systems	BMS1042 Public health and preventive medicine	BMS1052 Human neurobiology	
YEAR 3 Semester 1 February	ECE2131 Electrical circuits	BMS2021 Human molecular biology	BMS2011 Structure of the human body	BMS2031 Body systems	
YEAR 3 Semester 2 July	ECE2111 Signals and systems	BMS2042 Human genetics	BMS2052 Microbes in health and diseases	BMS2062 Introduction to bioinformatics	
YEAR 4 Semester 1 February	ECE3073 Computer systems	ECE3141 Information and networks	BMS3031 Molecular mechanisms of disease		
YEAR 4 Semester 2 July	ECE4132 Control system design	ECE3121 Engineering electromagnetics	BMS3052 Biomedical basis and epidemiology of human disease		
YEAR 5 Semester 1 February	ENG4701 Final year project A	ECE3161 Analogue electronics	ECE3051 Electrical energy systems	ECSE technical elective at level 4	ENG0001 Continuous Professional Development (0 credit points)
YEAR 5 Semester 2 July	ENG4702 Final year project B	ECE4191 Engineering integrated design	ECE4099 Professional Practice	ECSE technical elective at level 4	

Note:

- ECE2071 or ECE2072 - If you have completed either unit as a First Year technical elective, you must replace the core with another unit from the electrical and computer systems engineering technical electives list.
- The placement of units may be rearranged to support sequencing for double degree courses but care should be taken to ensure sequenced units are maintained in sequence.
- Engineering minors are not available in the double degrees.
  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 - Materials Engineering

	Bachelor of Materials Engineering (Honours)		Bachelor of Biomedical Science		
YEAR 1 Semester 1 February	Common first year			BMS1011 Biomedical chemistry	
YEAR 1 Semester 2 July				BMS1062 Molecular biology	
YEAR 2 Semester 1 February	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 July	MTE2202 Functional materials 1	ENG2005 Advanced engineering mathematics	BMS1042 Public health and preventive medicine	BMS1052 Human neurobiology	
YEAR 3 Semester 1 February	MTE2103 Mechanical properties of materials	BMS2021 Human molecular biology	BMS2011 Structure of the human body	BMS2031 Body systems	
YEAR 3 Semester 2 July	MTE2201 Polymers	BMS2042 Human genetics	BMS2052 Microbes in health and diseases	BMS2062 Introduction to bioinformatics	
YEAR 4 Semester 1 February	MTE3101 Materials in a complex world 1: Data and modelling	MTE3102 Structural materials	BMS3031 Molecular mechanisms of disease		
YEAR 4 Semester 2 July	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 February	ENG4701 Final year project A	MTE4101 Materials in a complex world 3: Design, build and create	MTE4102 Advanced materials processing and manufacturing	MTE3103 Materials life-cycle	ENG0001 Continuous Professional Development (0 credit points)
YEAR 5 Semester 2 July	ENG4702 Final year project B	MTE4201 Materials in a complex world 4: Impact in society	Materials technical elective at level 4 or 5	MTE3203 Ceramics	

Note:

- The placement of units may be rearranged to support sequencing for double degree courses but care should be taken to ensure sequenced units are maintained in sequence.
- Engineering minors are not available in the double degrees.
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E3004 Bachelor of Engineering (Honours) and Bachelor of Biomedical Science

Specialisation - Mechanical Engineering

	Bachelor of Mechanical Engineering (Honours)		Bachelor of Biomedical Science		
YEAR 1 Semester 1 February	Common first year			BMS1011 Biomedical chemistry	
YEAR 1 Semester 2 July				BMS1062 Molecular biology	
YEAR 2 Semester 1 February	MEC2403 Mechanics of materials	MEC2401 Dynamics 1	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 July	MEC2404 Mechanics of fluids	ENG2005 Advanced engineering mathematics	BMS1042 Public health and preventive medicine	BMS1052 Human neurobiology	
YEAR 3 Semester 1 February	MEC2402 Design methods	BMS2021 Human molecular biology	BMS2011 Structure of the human body	BMS2031 Body systems	
YEAR 3 Semester 2 July	MEC2405 Thermodynamics	BMS2042 Human genetics	BMS2052 Microbes in health and diseases	BMS2062 Introduction to bioinformatics	
YEAR 4 Semester 1 February	MEC3451 Fluid mechanics 2	MEC3456 Engineering computational analysis	BMS3031 Molecular mechanisms of disease		
YEAR 4 Semester 2 July	MEC3416 Machine design	MEC3457 Systems and control	BMS3052 Biomedical basis and epidemiology of human disease		
YEAR 5 Semester 1 February	ENG4701 Final year project A	MEC4408 Thermodynamics and heat transfer	MEC3455 Solid mechanics	MEC4404 Professional practice	ENG0001 Continuous Professional Development (0 credit points)
YEAR 5 Semester 2 July	ENG4702 Final year project B	MEC4426 Computer-aided design	MEC3453 Dynamics 2	MEC4407 Design project	

Note:

- MEC2404 - If you have completed MEC2404 as a First Year technical elective, you must replace the core with another unit from the mechanical engineering technical electives list.
- The placement of units may be rearranged to support sequencing for double degree courses but care should be taken to ensure sequenced units are maintained in sequence.
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