MONASH University

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 should be used in conjunction with the requirements of the course as specified in the Handbook. The map is subject to updates. Update version: 12 October 2025

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 VCE (Units 3 & 4) or equivalent Specialist mathematics and/or Physics with the required study score.
- 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		
Year 4 Semester 2 July	CHE3166 Process design	CHE3164 Reaction engineering	BMS3052 Biomedical basis and epidemiology of human disease		
Year 5 Semester 1 February	ENG4701 Final year project A	CHE4162 Particle technology	CHE4161 Engineer in society From 2025 Replace with one Professional Practice domain unit	CHE3167 Transport phenomena and numerical methods	ENG0001 Continuous Professional Development (0 credit points)
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 and CHE4165 – From 2025, the integrated industrial project opportunities become part of the ENG4701 and ENG4702 Final year projects.
- CHE4170 - You should not overload in the semester when undertaking this unit.
- 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 - 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 From 2025 Replace with CIV4249	CIV3294 Structural design	BMS3031 Molecular mechanisms of disease		
Year 4 Semester 2 July	CIV3247 Geomechanics 2	CIV3283 Road engineering	BMS3052 Biomedical basis and epidemiology of human disease		
Year 5 Semester 1 February	ENG4701 Final year project A	CIV3285 Engineering hydrology	CIV4286 Project management for civil engineers From Sem 2, 2024 Replace with one Professional Practice domain unit	CIV4280 Bridge design and assessment	ENG0001 Continuous Professional Development (0 credit points)
Year 5 Semester 2 July	ENG4702 Final year project B	CIV4212 Civil and environmental engineering practice	CIV3221 Building structures and technology	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.
- 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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Course progression map for 2021 commencing students

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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 Unit title change from 2025	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 In 2024 Replace with ECE3122	BMS3052 Biomedical basis and epidemiology of human disease		
Year 5 Semester 1 February	ENG4701 Final year project A	ECE3161 Analogue electronics Sem 2 offering from 2025	ECE3051 Electrical energy systems	Level 4 or 5 ECE-coded core elective	ENG0001 Continuous Professional Development (0 credit points)
Year 5 Semester 2 July	ENG4702 Final year project B	ECE4191 Engineering integrated design	ECE4099 Professional practice From Sem 2, 2024 Replace with one Professional Practice domain unit	Level 4 or 5 ECE-coded core elective	

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 or from one of the engineering minors. The replacement unit must be of the same level as the core unit or higher.
- 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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Course progression map for 2021 commencing students

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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	MTE2103 Mechanical properties of materials	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	MTE2201 Polymers Unit title change from 2025	ENG2005 Advanced engineering mathematics	BMS1042 Public health and preventive medicine	BMS1052 Human neurobiology	
Year 3 Semester 1 February	MTE2102 Phase equilibria and phase transformations	BMS2021 Human molecular biology	BMS2011 Structure of the human body	BMS2031 Body systems	
Year 3 Semester 2 July	MTE3101 Materials in a complex world 1: People, projects and data From 2026 Replace with MTE2204	BMS2042 Human genetics	BMS2052 Microbes in health and diseases	BMS2062 Introduction to bioinformatics	
Year 4 Semester 1 February	MTE2202 Functional materials 1 From 2026 Replace with MTE3104	MTE3102 Structural materials	BMS3031 Molecular mechanisms of disease		
Year 4 Semester 2 July	MTE3201 Materials in a complex world 2: Characterisation, identification and selection	MTE3203 Introduction to ceramics: Properties, processing and applications	BMS3052 Biomedical basis and epidemiology of human disease		
Year 5 Semester 1 February	ENG4701 Final year project A	MTE4101 Integrated design project	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 3: Impact in society From Sem 2, 2024 Replace with one Professional Practice domain unit	Level 4 or 5 MTE-coded materials engineering core elective	MTE3202 Functional materials 2 Unit title change from 2026	

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.
- 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 - 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 From 2026 Replace with MMA2002	MEC2402 Design methods From 2026 Replace with MMA2001	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 From 2026 See Progression plan	MEC2401 Dynamics 1 From 2026 Replace with MMA2004 - See Progression plan	BMS1042 Public health and preventive medicine	BMS1052 Human neurobiology	
Year 3 Semester 1 February	ENG2005 Advanced engineering mathematics	BMS2021 Human molecular biology	BMS2011 Structure of the human body	BMS2031 Body systems	
Year 3 Semester 2 July	MEC3456 Engineering computational analysis From 2026 Replace with MMA3001 - See Progression plan	BMS2042 Human genetics	BMS2052 Microbes in health and diseases	BMS2062 Introduction to bioinformatics	
Year 4 Semester 1 February	MEC3451 Fluid mechanics 2	MEC2405 Thermodynamics From 2026 See Progression plan	BMS3031 Molecular mechanisms of disease		
Year 4 Semester 2 July	MEC3416 Machine design Unit title change from 2026	MEC3457 Systems and control From 2026 Replace with MMA2005	BMS3052 Biomedical basis and epidemiology of human disease		
Year 5 Semester 1 February	ENG4701 Final year project A	MEC3455 Solid mechanics Unit title change from 2026	MEC4408 Thermodynamics and heat transfer Unit title change from 2026	MEC4404 Professional practice Replace with one Professional Practice domain unit	ENG0001 Continuous Professional Development (0 credit points)
Year 5 Semester 2 July	ENG4702 Final year project B	MEC4426 Computer-aided design From 2026 Replace with MMA4001	MEC4407 Design project Unit title change from 2026	MEC3453 Dynamics 2 Unit title change from 2026	

NOTE: **Please read the Mechanical Engineering Progression Plan alongside this course map to guide your progression.**

- It is important that you follow the course map unit sequence, as units are designed to build on prior knowledge. Taking units out of sequence can disrupt your progression and cause delays due to semester offerings and enrolment rules.
- 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 or from one of the engineering minors. The replacement unit must be of the same level as the core unit or higher.
- 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.
- For enrolment advice, please refer to the Course advisers webpage.