

Course progression map for 2027 commencing students

This progression map provides advice on the optimal sequencing of units and guidance on planning unit enrolment for each semester of study in conjunction with the required units outlined in the course 'Requirements' section of the [Handbook](#). Please note that the map may be updated to reflect changes to course requirements. Be sure to review it for the latest information before re-enrolling. *Update version: 1 October 2026*

E6014 Master of Engineering Specialisation – Engineering management

YEAR 1 Semester 1	ENG5100 Professional engineer in organisation and society or Specialist elective *	ENG5200 Engineering project risk management	Specialist studies unit	Specialist studies unit
YEAR 1 Semester 2	ENG5410 Research practice in engineering	Specialist elective or ENG5100 Professional engineer in organisation and society*	Specialist studies unit	Specialist studies unit

☐ Part A. Core studies
 ☐ Part B. Specialist studies
 ☐ Part C. Specialist elective study

Part C. Engineering management specialist elective study	Part B. Engineering management specialist studies
CHE5888 Sustainability and innovation CIV5302 Traffic engineering and management CIV5305 Travel demand modelling CIV5884 Water sensitive stormwater design CIV5899 Infrastructure information management ENE5043 Quantifying sustainability in urban systems ENE5044 AI applications for civil and environmental engineers ENG5008 Industry experience** MEC5885 Energy efficiency and sustainability MON5750 Monash Innovation Guarantee – Postgraduate (MIG – P) MTE5883 Environmental durability and protection of metals and engineering materials MTE5884 Advanced photovoltaics and energy storage	You must complete four units selected freely from below. The units are grouped to help you focus on a field of management. Contemporary management MGF5020 Business ethics in a global environment MGF5130 Managing diversity and inclusion MGF5600 Managing innovation MGF5928 Strategic leadership Entrepreneurship BEX5114 Value creation and start-up capital optimisation for founders BEX5120 Startup fundamentals: From setting up to securing investment BEX5411 Creativity and entrepreneurship BEX5413 Technology and innovation for start-ups Project management ENG5220 Organising the project function ENG5221 Project as a social system MGF5901 Managing the project context MGF5903 Delivering projects

* **ENG5100:** You can take [ENG5100](#) in either Semester 1 or Semester 2. If you choose to take [ENG5100](#) in Semester 2, the enhancement unit in Semester 2 should be taken in Semester 1.

** **ENG5008** is industry experience that will give you valuable exposure to work-related activities. Please note that enrolment in the unit is subject to available placements. **If you commenced the course in the July semester intake:** If you plan to enrol in [ENG5008](#), you must take [ENG5100](#) in your first semester of study and [ENG5008](#) in your second semester of study.

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E6014 Master of Engineering Specialisation - Biological engineering

YEAR 1 Semester 1	ENG5100 Professional engineer in organisation and society or Specialist elective *	ENG5200 Engineering project risk management	CHE5886 Advanced biopolymers	CHE5321 Advanced bioprocess technology
YEAR 1 Semester 2	ENG5410 Research practice in engineering	Specialist elective or ENG5100 Professional engineer in organisation and society*	CHE5882 Biomass and biorefineries	CHE5322 Advanced biochemical engineering



Part A. Core studies



Part B. Specialist studies



Part C. Specialist elective study

Part C. Biological engineering specialist elective study
• CHE5883 Nanostructured membranes for separation and energy production • CHE5889 Food engineering and processing • ENG5008 Industry experience** • GCH5010 Introduction to green chemistry • MGF5020 Business ethics in a global environment • MGF5600 Managing innovation • MON5750 Monash Innovation Guarantee – Postgraduate (MIG – P)

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E6014 Master of Engineering Specialisation - Civil engineering

YEAR 1 Semester 1	ENG5100 Professional engineer in organisation and society or Specialist elective *	ENG5200 Engineering project risk management	Specialist studies unit	Specialist studies unit
YEAR 1 Semester 2	ENG5410 Research practice in engineering	Specialist elective or ENG5100 Professional engineer in organisation and society*	Specialist studies unit	Specialist studies unit

☐ Part A. Core studies
 ☐ Part B. Specialist studies
 ☐ Part C. Specialist elective study

Part C. Civil engineering specialist elective study	Part B. Civil engineering specialist studies
CIV5136 Structural analysis CIV5177 Advanced road engineering CIV5314 Planning urban mobility futures CIV5887 Infrastructure rehabilitation and monitoring CIV5888 Advanced computational methods CIV5899 Infrastructure information management ENE5042 Environmental impact and risk assessment ENE5043 Quantifying sustainability in urban systems ENE5044 AI applications for civil and environmental engineers ENG5008 Industry experience** ENG5331 Railway engineering MEC5882 Instrumentation, sensing and monitoring MEC5888 Renewable energy systems MGF5020 Business ethics in a global environment MON5750 Monash Innovation Guarantee – Postgraduate (MIG – P) MTE5883 Environmental durability and protection of metals and engineering materials	You must complete four units selected freely from below. The units are grouped to help you focus on the field of civil engineering suited to your previous study. Structural engineering CIV5885 Infrastructure dynamics CIV5887 Infrastructure rehabilitation and monitoring CIV5888 Advanced computational methods or CIV5136 Structural analysis CIV5899 Infrastructure information management Geotechnical engineering CIV5887 Infrastructure rehabilitation and monitoring CIV5148 Ground hazards engineering CIV5888 Advanced computational methods CIV5899 Infrastructure information management Transport engineering CIV5302 Traffic engineering and management CIV5305 Travel demand modelling CIV5314 Planning urban mobility futures CIV5899 Infrastructure information management Water and environmental engineering CIV5884 Water sensitive stormwater design CIV5899 Infrastructure information management ENE5042 Environmental impact and risk assessment ENE5043 Quantifying sustainability in urban systems ENE5044 AI applications for civil and environmental engineers

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E6014 Master of Engineering Specialisation - Electrical engineering

YEAR 1 Semester 1	ENG5100 Professional engineer in organisation and society or Specialist elective *	ENG5200 Engineering project risk management	ECE5882 Advanced electronics design	ECE5883 Advanced signal processing
YEAR 1 Semester 2	ENG5410 Research practice in engineering	Specialist elective or ENG5100 Professional engineer in organisation and society*	ECE5122 Advanced electromagnetics	ECE5884 Wireless communications

☐ Part A. Core studies
 ☐ Part B. Specialist studies
 ☐ Part C. Specialist elective study

Part C. Electrical engineering specialist elective study
CHE5882 Biomass and biorefineries CHE5883 Nanostructured membranes for separation and energy production ECE5143 Optical communications ECE5146 Multimedia technologies ECE5153 Power system analysis ECE5156 Grid integration of renewable energy resources ECE5178 Intelligent robotics ECE5179 Neural networks and deep learning ECE5886 Smart grids ENG5007 Translation and commercialisation of medical technologies ENG5008 Industry experience** MEC5881 Engineering systems performance analysis MGF5020 Business ethics in a global environment MGF5600 Managing innovation MON5750 Monash Innovation Guarantee – Postgraduate (MIG – P) MTE5883 Environmental durability and protection of metals and engineering materials MTE5886 Additive manufacturing of metallic materials

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E6014 Master of Engineering Specialisation – Energy transitions engineering

YEAR 1 Semester 1	ENG5001 Advanced data analytics for engineers	Specialist elective	Specialist studies unit	Specialist studies unit
YEAR 1 Semester 2	ENG5008 Industry experience* or a level 5 unit as prescribed by the Faculty of Engineering *Subject to placement availability	ECE5886 Smart grids	Specialist studies unit	Specialist studies unit

☐ Part A. Core studies
 ☐ Part B. Specialist studies
 ☐ Part C. Specialist elective study

Part C. Energy transitions engineering specialist elective study	Part B. Energy transitions engineering specialist studies
ENG5100 Professional engineer in organisation and society ENG5200 Engineering project risk management MEC5883 Mechanical systems design MON5750 Monash Innovation Guarantee – Postgraduate (MIG – P)	CHE5882 Biomass and biorefineries CHE5888 Sustainability and innovation MEC5881 Engineering systems performance analysis MEC5885 Energy efficiency and sustainability engineering MEC5888 Renewable energy systems MTE5884 Advanced photovoltaics and energy storage

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E6014 Master of Engineering Specialisation - Materials engineering

YEAR 1 Semester 1	ENG5100 Professional engineer in organisation and society or Specialist elective *	ENG5200 Engineering project risk management	Specialist studies unit	Specialist studies unit
YEAR 1 Semester 2	ENG5410 Research practice in engineering	Specialist elective or ENG5100 Professional engineer in organisation and society*	Specialist studies unit	Specialist studies unit

☐ Part A. Core studies
 ☐ Part B. Specialist studies
 ☐ Part C. Specialist elective study

Part C. Materials engineering specialist elective study	Part B. Materials engineering specialist studies
CHE5883 Nanostructured membranes for separation and energy production ENG5008 Industry experience** MGF5020 Business ethics in a global environment MGF5600 Managing innovation MON5750 Monash Innovation Guarantee – Postgraduate (MIG – P) MTE5194 Engineering alloy design, processing and selection MTE5197 Engineering with nanomaterials MTE5881 Quantum crystallography MTE5883 Environmental durability and protection of metals and engineering materials MTE5886 Additive manufacturing of metallic materials	MTE5190 Advanced materials modelling MTE5193 Materials and sustainability MTE5194 Engineering alloy design, processing and selection MTE5197 Engineering with nanomaterials MTE5881 Quantum crystallography MTE5882 Advanced polymeric materials MTE5883 Environmental durability and protection of metals and engineering materials MTE5884 Advanced photovoltaics and energy storage MTE5885 Biomaterials and biomechanics MTE5886 Additive manufacturing of metallic materials MTE5887 Additive manufacturing of polymeric and functional materials

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E6014 Master of Engineering Specialisation - Mechanical engineering

YEAR 1 Semester 1	ENG5100 Professional engineer in organisation and society or Specialist elective *	ENG5200 Engineering project risk management	MEC5883 Mechanical systems design	MEC5885 Energy efficiency and sustainability engineering
YEAR 1 Semester 2	ENG5410 Research practice in engineering	Specialist elective or ENG5100 Professional engineer in organisation and society*	MEC5881 Engineering systems performance analysis	MEC5884 Sustainable engineering systems

☐ Part A. Core studies
 ☐ Part B. Specialist studies
 ☐ Part C. Specialist elective study

Part C. Mechanical engineering specialist elective study
• ENG5002 Engineering entrepreneurship • ENG5008 Industry experience** • MEC5156 Advanced robotics in manufacturing • ENG5331 Railway engineering • MEC5882 Instrumentation, sensing and monitoring • MEC5888 Renewable energy systems • MEC5897 Lean manufacturing • MGF5020 Business ethics in a global environment • MGF5600 Managing innovation • MON5750 Monash Innovation Guarantee – Postgraduate (MIG – P) • MTE5193 Materials and sustainability • MTE5882 Advanced polymeric materials • MTE5883 Environmental durability and protection of metals and engineering materials • MTE5884 Advanced photovoltaics and energy storage • MTE5886 Additive manufacturing of metallic materials

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E6014 Master of Engineering Specialisation – Power systems engineering

YEAR 1 Semester 1	ENG5001 Advanced data analytics for engineers	Specialist elective	Specialist studies unit	Specialist studies unit
YEAR 1 Semester 2	ENG5008 Industry experience* or a level 5 unit as prescribed by the Faculty of Engineering *Subject to placement availability	ECE5886 Smart grids	Specialist studies unit	Specialist studies unit

☐ Part A. Core studies
 ☐ Part B. Specialist studies
 ☐ Part C. Specialist elective study

Part C. Power systems engineering specialist elective study	Part B. Power systems engineering specialist studies
ENG5100 Professional engineer in organisation and society ENG5200 Engineering project risk management MEC5885 Energy efficiency and sustainability engineering MTE5884 Advanced photovoltaics and energy storage MON5750 Monash Innovation Guarantee – Postgraduate (MIG – P)	ECE5153 Power system analysis ECE5155 Power electronic converters for modern power systems ECE5179 Neural networks and deep learning ECE5883 Advanced signal processing MEC5888 Renewable energy systems

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E6014 Master of Engineering Specialisation – Quantum engineering

YEAR 1 Semester 1	ENG5100 Professional engineer in organisation and society or Specialist elective *	ENG5200 Engineering project risk management	MTE5881 Quantum crystallography	MTE5103 Electronic and photonic materials
YEAR 1 Semester 2	ENG5410 Research practice in engineering	Specialist elective or ENG5100 Professional engineer in organisation and society*	MTE5202 Magnetic and spintronic materials	MTE5590 Modelling of materials: From continuum to quantum

☐ Part A. Core studies

☐ Part B. Specialist studies

☐ Part C. Specialist elective study

Part C. Renewable energy engineering specialist elective study
• CHE5883 Nanostructured membranes for separation and energy production • ENG5008 Industry experience** • MGF5020 Business ethics in a global environment • MGF5600 Managing innovation • MON5750 Monash Innovation Guarantee – Postgraduate (MIG – P) • MTE5194 Engineering alloy design, processing and selection • MTE5197 Engineering with nanomaterials • MTE5883 Environmental durability and protection of metals and engineering materials • MTE5886 Additive manufacturing of metallic materials

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E6014 Master of Engineering

Specialisation – Renewable energy engineering

YEAR 1 Semester 1	ENG5100 Professional engineer in organisation and society or Specialist elective *	ENG5200 Engineering project risk management	MTE5884 Advanced photovoltaics and energy storage	MEC5885 Energy efficiency and sustainability engineering
YEAR 1 Semester 2	ENG5410 Research practice in engineering	Specialist elective or ENG5100 Professional engineer in organisation and society*	ECE5886 Smart grids	MEC5888 Renewable energy systems

☐ Part A. Core studies

☐ Part B. Specialist studies

☐ Part C. Specialist elective study

Part C. Renewable energy engineering specialist elective study
• CHE5888 Sustainability and innovation • ENE5043 Quantifying sustainability in urban systems • ENE5044 AI applications for civil and environmental engineers • ENG5008 Industry experience** • MEC5881 Engineering systems performance analysis • MON5750 Monash Innovation Guarantee – Postgraduate (MIG – P) • MTE5883 Environmental durability and protection of metals and engineering materials • MEC5884 Sustainable engineering systems

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E6014 Master of Engineering Specialisation – Smart manufacturing engineering

YEAR 1 Semester 1	ENG5100 Professional engineer in organisation and society or Specialist elective *	ENG5200 Engineering project risk management	MTE5887 Additive manufacturing of polymeric functional materials	MEC5882 Instrumentation, sensing and monitoring
YEAR 1 Semester 2	ENG5410 Research practice in engineering	Specialist elective or ENG5100 Professional engineer in organisation and society*	MEC5897 Lean manufacturing	MEC5156 Advanced robotics in manufacturing

☐ Part A. Core studies
 ☐ Part B. Specialist studies
 ☐ Part C. Specialist elective study

Part C. Smart manufacturing engineering specialist elective study
ECE5179 Neural networks and deep learning ENE5043 Quantifying sustainability in urban systems ENE5044 AI applications for civil and environmental engineers ENG5008 Industry experience** MEC5881 Engineering systems performance analysis MEC5884 Sustainable engineering systems MON5750 Monash Innovation Guarantee – Postgraduate (MIG – P) MTE5886 Additive manufacturing of metallic materials

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