

Monash Science Pathway to Master of Professional Engineering

MPE commencement: FEBRUARY INTAKE

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: 2 September 2021

Monash Science Pathway

You must take these units during your [Bachelor of Science](#) degree:

Science units: Physics: (PHS1001 and PHS1002) or (PHS1011 and PHS1022) Mathematics: MTH1030 plus one other mathematics unit	Engineering pathway units (24 points): ECE2072 Digital systems ECE2111 Signals and systems ECE2131 Electrical circuits ECE3121 Engineering electromagnetics
--	--

Master of Professional Engineering Specialisation – Electrical engineering

Block credits for completed Monash Science Pathway engineering units					
YEAR 1 Semester 1 February	ECE3161 Analogue electronics	ECE3051 Electrical energy systems	ECE3141 Information and networks	ENG5001 Advanced engineering data analysis	ENG0003 Continuous Professional Development
YEAR 2 Semester 2 July	ECE4132 Control system design	ECE5122 Advanced electromagnetics	ECE5884 Wireless communications	ECE5886 Smart grids	
YEAR 2 Semester 1 February	ECE5883 Advanced signal processing	ENG5100 Professional engineer in organisation and society	Electrical engineering enhancement unit	Electrical engineering enhancement unit	
YEAR 3 Semester 2 July	ENG5105 Integrated design	ECE5882 Advanced electronic design	ENG5005 Research methods	Electrical engineering enhancement unit	
YEAR 3 Semester 1 February	ECE5155 Power electronic converters	ECE5881 Real-time system design	ENG5006 Research practice	Electrical engineering enhancement unit	

Part A. Engineering foundation knowledge and application

Part B. Engineering specialist knowledge and application

Enhancement learning

Part D. Research and knowledge skills

Part E. Professional practice

Electrical engineering enhancement units	
ECE5143 Optical communications	ECE5178 Intelligent robotics
ECE5145 Network performance	ECE5179 Neural networks and deep learning
ECE5146 Multimedia technologies	ENG5008 Work integrated learning
ECE5153 Power system analysis	MEC5882 Instrumentation, sensing and monitoring
ECE5156 Advanced power electronics	MTE5884 Advanced photovoltaics and energy storage
ECE5176 Computer vision	

Continuous Professional Development (CPD)

CPD is a compulsory requirement for all Master of Professional Engineering students. It's a collection of all work, volunteering and personal and professional development opportunities. You must complete a total of **420 hours** of CPD activities and submit a series of reflections on their experience with particular reference to the development of each of the key Engineers Australia Stage 1 competencies. Further information is available on the [CPD website](#).

Monash Science Pathway to Master of Professional Engineering

MPE commencement: JULY INTAKE

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: 2 September 2021

Monash Science Pathway

You must take these units during your [Bachelor of Science](#) degree:

Science units: Physics: (PHS1001 and PHS1002) or (PHS1011 and PHS1022) Mathematics: MTH1030 plus one other mathematics unit	Engineering pathway units (24 points): ECE2072 Digital systems ECE2131 Electrical circuits ECE3051 Electrical energy systems ECE3141 Information and networks
--	--

Master of Professional Engineering Specialisation – Electrical engineering

Block credits for completed Monash Science Pathway engineering units					
YEAR 1 Semester 2 July	ECE4132 Control system design	ECE3121 Engineering Electromagnetics	ECE2111 Signals and systems	Electrical engineering enhancement unit	ENG0003 Continuous Professional Development
YEAR 2 Semester 1 February	ECE3161 Analogue electronics	ECE5883 Advanced signal processing	ENG5001 Advanced engineering data analysis	ENG5100 Professional engineer in organisation and society	
YEAR 2 Semester 2 July	ECE5122 Advanced electromagnetics	ECE5884 Wireless communications	ECE5886 Smart grids	Electrical engineering enhancement unit	
YEAR 3 Semester 1 February	ECE5155 Power electronic converters	ECE5881 Real-time system design	ENG5005 Research methods	Electrical engineering enhancement unit	
YEAR 3 Semester 2 July	ENG5105 Integrated design	ECE5882 Advanced electronic design	ENG5006 Research practice	Electrical engineering enhancement unit	

- | | | |
|---|---|---|
| <input type="checkbox"/> Part A. Engineering foundation knowledge and application | <input type="checkbox"/> Part B. Engineering specialist knowledge and application | <input type="checkbox"/> Enhancement learning |
| <input type="checkbox"/> Part D. Research and knowledge skills | <input type="checkbox"/> Part E. Professional practice | |

Electrical engineering enhancement units	
ECE5143 Optical communications	ECE5178 Intelligent robotics
ECE5145 Network performance	ECE5179 Neural networks and deep learning
ECE5146 Multimedia technologies	ENG5008 Work integrated learning
ECE5153 Power system analysis	MEC5882 Instrumentation, sensing and monitoring
ECE5156 Advanced power electronics	MTE5884 Advanced photovoltaics and energy storage
ECE5176 Computer vision	

Continuous Professional Development (CPD)

CPD is a compulsory requirement for all Master of Professional Engineering students. It's a collection of all work, volunteering and personal and professional development opportunities. You must complete a total of **420 hours** of CPD activities and submit a series of reflections on their experience with particular reference to the development of each of the key Engineers Australia Stage 1 competencies. Further information is available on the [CPD website](#).