MONASH University

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: 13 December 2021

Monash Science Pathway

You must take these units during your Bachelor of Science degree:

Science units:	**Engineering pathway units** (24 points):
Physics: (PHS1001 and PHS1002) or (PHS1011 and PHS1022) Mathematics: MTH1030 plus one other mathematics unit	CIV2206 Structural mechanics CIV2242 Geomechanics 1 CIV4286 Project management for civil engineers CIV2235 Structural materials

Master of Professional Engineering

Specialisation – Civil engineering

Block credits for completed Monash Science Pathway engineering units					
YEAR 1 Semester 1 February	CIV3294 Structural design	CIV3285 Engineering hydrology	CIV2263 Water systems	CIV2282 Transport and traffic engineering	ENG0003 Continuous Professional Development
YEAR 2 Semester 2 July	CIV5147 Advanced geomechanics	CIV5121 Building structures and technology	CIV5177 Advanced road engineering	Civil Engineering enhancement unit	
YEAR 2 Semester 1 February	ENG5100 Professional engineer in organisation and society	CIV5170 Bridge design and assessment	CIV5178 Advanced water treatment	Civil Engineering enhancement unit	
YEAR 3 Semester 2 July	ENG5105 Integrated design	ENG5005 Research methods	CIV5888 Advanced computational methods	Civil Engineering enhancement unit	
YEAR 3 Semester 1 February	ENG5008 Work integrated learning *or* CIV5899 Infrastructure information management	ENG5006 Research practice	ENG5001 Advanced engineering data analysis	Civil 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

Civil engineering enhancement units

Structure stream
CIV5135 Advanced structural design
CIV5134 Advanced structural analysis
CIV5887 Infrastructure rehabilitation and monitoring
CIV5885 Infrastructure dynamics

Water stream
CIV5882 Flood hydraulics and hydrology
CIV5881 Ground water hydraulics
CIV5883 Surface water hydrology
CIV5884 Water sensitive stormwater design

Transport stream
CIV5301 Advanced traffic engineering
CIV5302 Traffic engineering and management
CIV5314 Planning urban transport systems
CIV5304 Intelligent transport systems

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: 13 December 2021

Monash Science Pathway

You must take these units during your Bachelor of Science degree:

Science units:	**Engineering pathway units** (24 points):
Physics: (PHS1001 and PHS1002) or (PHS1011 and PHS1022) Mathematics: MTH1030 plus one other mathematics unit	CIV2206 Structural mechanics CIV2263 Water systems CIV2235 Structural materials CIV3285 Engineering hydrology

Master of Professional Engineering

Specialisation – Civil engineering

Block credits for completed Monash Science Pathway engineering units					
YEAR 1 Semester 2 July	CIV4286 Project management for civil engineers	CIV3294 Structural design	CIV2242 Geomechanics 1	Civil Engineering enhancement unit *(Structure stream: Take CIV5135)*	ENG0003 Continuous Professional Development
YEAR 2 Semester 1 February	ENG5100 Professional engineer in organisation and society	CIV5178 Advanced water treatment	CIV2282 Transport and traffic engineering	CIV5170 Bridge design and assessment	
YEAR 2 Semester 2 July	CIV5147 Advanced geomechanics	CIV5121 Building structures and technology	CIV5177 Advanced road engineering	Civil Engineering enhancement unit	
YEAR 3 Semester 1 February	ENG5001 Advanced engineering data analysis	ENG5005 Research methods	ENG5008 Work integrated learning *or* CIV5899 Infrastructure information management	Civil Engineering enhancement unit	
YEAR 3 Semester 2 July	ENG5105 Integrated design	ENG5006 Research practice	CIV5888 Advanced computational methods	Civil 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

Civil engineering enhancement units

Structure stream
CIV5135 Advanced structural design
CIV5134 Advanced structural analysis
CIV5887 Infrastructure rehabilitation and monitoring
CIV5885 Infrastructure dynamics

Water stream
CIV5882 Flood hydraulics and hydrology
CIV5881 Ground water hydraulics
CIV5883 Surface water hydrology
CIV5884 Water sensitive stormwater design

Transport stream
CIV5301 Advanced traffic engineering
CIV5302 Traffic engineering and management
CIV5314 Planning urban transport systems
CIV5304 Intelligent transport systems

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.