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Course progression map for 2019 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. Last update: 8 December 2020

E6001 Master of Advanced Engineering

Specialisation – Additive manufacturing

Entry level 1 (2 years)

YEAR 1 Semester 1	ENG5001 Advanced engineering data analysis	Enhancement unit	Technical elective unit	Technical elective unit
YEAR 1 Semester 2	MTE5886 Additive manufacturing of metallic materials Or MEC5881 Engineering systems performance analysis	Enhancement unit	Technical elective unit	Technical elective unit
YEAR 2 Semester 1	MTE5887 Additive manufacturing of polymeric and functional materials	MEC5891 Design for additive manufacturing	ENG5003 Advanced design project A *Unit replaced from 2021. Please seek course advice.*	ENG5005 Research methods
YEAR 2 Semester 2	ENG5002 Engineering entrepreneurship Or ENG5008 Work integrated learning	MTE5886 Additive manufacturing of metallic materials Or MEC5881 Engineering systems performance analysis	ENG5004 Advanced design project B *Unit replaced from 2021. Please seek course advice.*	ENG5006 Research practice

Entry level 2 (1 year)

YEAR 1 Semester 1	ENG5001 Advanced engineering data analysis	MTE5887 Additive manufacturing of polymeric and functional materials	MEC5891 Design for additive manufacturing	Enhancement unit
YEAR 1 Semester 2	ENG5002 Engineering entrepreneurship Or ENG5008 Work integrated learning	MTE5886 Additive manufacturing of metallic materials	MEC5881 Engineering systems performance analysis	ENG5005 Research methods

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E6001 Master of Advanced Engineering

Specialisation – Chemical engineering

Entry level 1 (2 years)

Year 1 Semester 1	ENG5001 Advanced engineering data analysis	Enhancement unit	Technical elective unit	Technical elective unit
Year 1 Semester 2	CHE5882 Biomass and biorefineries Or CHE5883 Nanostructured membranes for separation and energy production	Enhancement unit	Technical elective unit	Technical elective unit
Year 2 Semester 1	CHE5881 Advanced reaction engineering	CHE5884 Process modelling and optimisation	ENG5003 Advanced design project A *Unit replaced from 2021. Please seek course advice.*	ENG5005 Research methods
Year 2 Semester 2	ENG5002 Engineering entrepreneurship Or ENG5008 Work integrated learning	CHE5882 Biomass and biorefineries Or CHE5883 Nanostructured membranes for separation and energy production	ENG5004 Advanced design project B *Unit replaced from 2021. Please seek course advice.*	ENG5006 Research practice

Entry level 2 (1 year)

Year 1 Semester 1	ENG5001 Advanced engineering data analysis	CHE5881 Advanced reaction engineering	CHE5884 Process modelling and optimisation	Enhancement unit
Year 1 Semester 2	ENG5002 Engineering entrepreneurship Or ENG5008 Work integrated learning	CHE5882 Biomass and biorefineries	CHE5883 Nanostructured membranes for separation and energy production	ENG5005 Research methods

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E6001 Master of Advanced Engineering

Specialisation – Civil engineering (Infrastructure systems)

Entry level 1 (2 years)

Year 1 Semester 1	ENG5001 Advanced engineering data analysis	Enhancement unit	Technical elective unit	Technical elective unit
Year 1 Semester 2	CIV5887 Infrastructure rehabilitation and monitoring Or CIV5888 Advanced computational methods	Enhancement unit	Technical elective unit	Technical elective unit
Year 2 Semester 1	CIV5885 Infrastructure dynamics	CIV5886 Infrastructure geomechanics	ENG5003 Advanced design project A *Unit replaced from 2021. Please seek course advice.*	ENG5005 Research methods
Year 2 Semester 2	ENG5002 Engineering entrepreneurship Or ENG5008 Work integrated learning	CIV5887 Infrastructure rehabilitation and monitoring Or CIV5888 Advanced computational methods	ENG5004 Advanced design project B *Unit replaced from 2021. Please seek course advice.*	ENG5006 Research practice

Entry level 2 (1 year)

Year 1 Semester 1	ENG5001 Advanced engineering data analysis	CIV5885 Infrastructure dynamics	CIV5886 Infrastructure geomechanics	Enhancement unit
Year 1 Semester 2	ENG5002 Engineering entrepreneurship Or ENG5008 Work integrated learning	CIV5887 Infrastructure rehabilitation and monitoring	CIV5888 Advanced computational methods	ENG5005 Research methods

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E6001 Master of Advanced Engineering

Specialisation – Civil engineering (Transport)

Entry level 1 (2 years)

Year 1 Semester 1	ENG5001 Advanced engineering data analysis	Enhancement unit	Technical elective unit	Technical elective unit
Year 1 Semester 2	CIV5301 Advanced traffic engineering Or CIV5314 Planning urban mobility futures	Enhancement unit	Technical elective unit	Technical elective unit
Year 2 Semester 1	CIV5302 Traffic engineering and management	CIV5304 Intelligent transport	ENG5003 Advanced design project A *Unit replaced from 2021. Please seek course advice.*	ENG5005 Research methods
Year 2 Semester 2	ENG5002 Engineering entrepreneurship Or ENG5008 Work integrated learning	CIV5301 Advanced traffic engineering Or CIV5314 Planning urban mobility futures	ENG5004 Advanced design project B *Unit replaced from 2021. Please seek course advice.*	ENG5006 Research practice

Entry level 2 (1 year)

Year 1 Semester 1	ENG5001 Advanced engineering data analysis	CIV5302 Traffic engineering and management	CIV5304 Intelligent transport	Enhancement unit
Year 1 Semester 2	ENG5002 Engineering entrepreneurship Or ENG5008 Work integrated learning	CIV5301 Advanced traffic engineering	CIV5314 Planning urban mobility futures	ENG5005 Research methods

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E6001 Master of Advanced Engineering

Specialisation – Civil engineering (Water)

Entry level 1 (2 years)

Year 1 Semester 1	ENG5001 Advanced engineering data analysis	Enhancement unit	Technical elective unit	Technical elective unit
Year 1 Semester 2	CIV5883 Surface water hydrology	Enhancement unit	Technical elective unit	Technical elective unit
Year 2 Semester 1	CIV5881 Ground water hydraulics	CIV5884 Water sensitive stormwater design	ENG5003 Advanced design project A *Unit replaced from 2021. Please seek course advice.*	ENG5005 Research methods
Year 2 Semester 2	ENG5002 Engineering entrepreneurship Or ENG5008 Work integrated learning	CIV5882 Flood hydraulics and hydrology	ENG5004 Advanced design project B *Unit replaced from 2021. Please seek course advice.*	ENG5006 Research practice

Entry level 2 (1 year)

Year 1 Semester 1	ENG5001 Advanced engineering data analysis	CIV5881 Ground water hydraulics	CIV5884 Water sensitive stormwater design	Enhancement unit
Year 1 Semester 2	ENG5002 Engineering entrepreneurship Or ENG5008 Work integrated learning	CIV5883 Surface water hydrology	CIV5882 Flood hydraulics and hydrology	ENG5005 Research methods

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E6001 Master of Advanced Engineering

Specialisation – Electrical engineering

Entry level 1 (2 years)

Year 1 Semester 1	ENG5001 Advanced engineering data analysis	Enhancement unit	Technical elective unit	Technical elective unit
Year 1 Semester 2	ECE5882 Advanced electronics design Or ECE5884 Wireless communications	Enhancement unit	Technical elective unit	Technical elective unit
Year 2 Semester 1	ECE5881 Real-time system design	ECE5883 Advanced signal processing	ENG5003 Advanced design project A *Unit replaced from 2021. Please seek course advice.*	ENG5005 Research methods
Year 2 Semester 2	ENG5002 Engineering entrepreneurship Or ENG5008 Work integrated learning	ECE5882 Advanced electronics design Or ECE5884 Wireless communications	ENG5004 Advanced design project B *Unit replaced from 2021. Please seek course advice.*	ENG5006 Research practice

Entry level 2 (1 year)

Year 1 Semester 1	ENG5001 Advanced engineering data analysis	ECE5881 Real-time system design	ECE5883 Advanced signal processing	Enhancement unit
Year 1 Semester 2	ENG5002 Engineering entrepreneurship Or ENG5008 Work integrated learning	ECE5882 Advanced electronics design	ECE5884 Wireless communications	ENG5005 Research methods

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E6001 Master of Advanced Engineering

Specialisation – Energy and sustainability engineering

Entry level 2 (1 year)

Note: Only entry level 2 is available in this specialisation.

Year 1 Semester 1	ENG5001 Advanced engineering data analysis	CHE5885 Principles and practices for sustainable development	CIV5801 Green building	MEC5885 Energy efficiency and sustainability engineering
Year 1 Semester 2	ENG5002 Engineering entrepreneurship	MEC5886 Sustainable energy technologies	Enhancement unit	ENG5005 Research methods

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E6001 Master of Advanced Engineering

Specialisation – Materials engineering

Entry level 1 (2 years)

Year 1 Semester 1	ENG5001 Advanced engineering data analysis	Enhancement unit	Technical elective unit	Technical elective unit
Year 1 Semester 2	MTE5881 Applied crystallography in advanced materials characterisation Or MTE5883 Environmental durability and protection of metals and engineering materials	Enhancement unit	Technical elective unit	Technical elective unit
Year 2 Semester 1	MTE5882 Advanced polymeric materials	MTE5884 Advanced photovoltaics and energy storage	ENG5003 Advanced design project A *Unit replaced from 2021. Please seek course advice.*	ENG5005 Research methods
Year 2 Semester 2	ENG5002 Engineering entrepreneurship Or ENG5008 Work integrated learning	MTE5881 Applied crystallography in advanced materials characterisation Or MTE5883 Environmental durability and protection of metals and engineering materials	ENG5004 Advanced design project B *Unit replaced from 2021. Please seek course advice.*	ENG5006 Research practice

Entry level 2 (1 year)

Year 1 Semester 1	ENG5001 Advanced engineering data analysis	MTE5882 Advanced polymeric materials	MTE5884 Advanced photovoltaics and energy storage	Enhancement unit
Year 1 Semester 2	ENG5002 Engineering entrepreneurship Or ENG5008 Work integrated learning	MTE5881 Applied crystallography in advanced materials characterisation	MTE5883 Environmental durability and protection of metals and engineering materials	ENG5005 Research methods

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E6001 Master of Advanced Engineering

Specialisation – Mechanical engineering

Entry level 1 (2 years)

Year 1 Semester 1	ENG5001 Advanced engineering data analysis	Enhancement unit	Technical elective unit	Technical elective unit
Year 1 Semester 2	MEC5881 Engineering systems performance analysis Or MEC5884 Sustainable engineering systems	Enhancement unit	Technical elective unit	Technical elective unit
Year 2 Semester 1	MEC5882 Instrumentation, sensing and monitoring	MEC5883 Mechanical systems design	ENG5003 Advanced design project A *Unit replaced from 2021. Please seek course advice.*	ENG5005 Research methods
Year 2 Semester 2	ENG5002 Engineering entrepreneurship Or ENG5008 Work integrated learning	MEC5881 Engineering systems performance analysis Or MEC5884 Sustainable engineering systems	ENG5004 Advanced design project B *Unit replaced from 2021. Please seek course advice.*	ENG5006 Research practice

Entry level 2 (1 year)

Year 1 Semester 1	ENG5001 Advanced engineering data analysis	MEC5882 Instrumentation, sensing and monitoring	MEC5883 Mechanical systems design	Enhancement unit
Year 1 Semester 2	ENG5002 Engineering entrepreneurship Or ENG5008 Work integrated learning	MEC5881 Engineering systems performance analysis	MEC5884 Sustainable engineering systems	ENG5005 Research methods

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E6001 Master of Advanced Engineering

Specialisation – Medical engineering

Entry level 1 (2 years)

Year 1 Semester 1	ENG5001 Advanced engineering data analysis	Enhancement unit	Technical elective unit	Technical elective unit
Year 1 Semester 2	ENG5007 Translation and commercialisation of medical technologies* Or MEC5889 Medical device technologies* ** Unit replaced in 2021. Please seek dept course advice.*	Enhancement unit	Technical elective unit	Technical elective unit
Year 2 Semester 1	BMA5011 Introduction to human bioscience for engineering	MTE5885 Biomaterials and biomechanics	ENG5003 Advanced design project A *Unit replaced from 2021. Please seek course advice.*	ENG5005 Research methods
Year 2 Semester 2	ENG5002 Engineering entrepreneurship Or ENG5008 Work integrated learning	ENG5007 Translation and commercialisation of medical technologies* Or MEC5889 Medical device technologies* ** Unit replaced from 2021. Please seek dept course advice.*	ENG5004 Advanced design project B *Unit replaced from 2021. Please seek course advice.*	ENG5006 Research practice

Entry level 2 (1 year)

Year 1 Semester 1	ENG5001 Advanced engineering data analysis	BMA5011 Introduction to human bioscience for engineering	MTE5885 Biomaterials and biomechanics	Enhancement unit
Year 1 Semester 2	ENG5002 Engineering entrepreneurship Or ENG5008 Work integrated learning	ENG5007 Translation and commercialisation of medical technologies* ** Unit replaced from 2021. Please seek dept course advice.*	MEC5889 Medical device technologies*	ENG5005 Research methods

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E6001 Master of Advanced Engineering

Specialisation – Renewable and Sustainable Energy engineering

Entry level 1 (2 years)

Year 1 Semester 1	ENG5001 Advanced engineering data analysis	Enhancement unit	Technical elective unit	Technical elective unit
Year 1 Semester 2	ECE5886 Smart grids Or MEC5888 Renewable energy systems	Enhancement unit	Technical elective unit	Technical elective unit
Year 2 Semester 1	MEC5885 Energy efficiency and sustainability engineering	MTE5884 Advanced photovoltaics and energy storage	ENG5003 Advanced design project A *Unit replaced from 2021. Please seek course advice.*	ENG5005 Research methods
Year 2 Semester 2	ENG5002 Engineering entrepreneurship Or ENG5008 Work integrated learning	ECE5886 Smart grids Or MEC5888 Renewable energy systems	ENG5004 Advanced design project B *Unit replaced from 2021. Please seek course advice.*	ENG5006 Research practice

Entry level 2 (1 year)

Year 1 Semester 1	ENG5001 Advanced engineering data analysis	MEC5885 Energy efficiency and sustainability engineering	MTE5884 Advanced photovoltaics and energy storage	Enhancement unit
Year 1 Semester 2	ENG5002 Engineering entrepreneurship Or ENG5008 Work integrated learning	ECE5886 Smart grids	MEC5888 Renewable energy systems	ENG5005 Research methods