

Course progression map for 2020 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](#). Please note that the map is subject to updates. Update version: 23 September 2021

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	ENG5004 Advanced design project B* <i>*If you have already completed ENG5003, you must enrol in ENG5004. Otherwise, enrol in ENG5100 from 2021</i>	ENG5005 Research methods
YEAR 2 Semester 2	ENG5002 Engineering entrepreneurship <small>No offering in 2022</small> Or ENG5008 Work integrated learning	MTE5886 Additive manufacturing of metallic materials Or MEC5881 Engineering systems performance analysis	ENG5003 Advanced design project A* <i>*Unit replaced with ENG5105 from 2021</i>	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 <small>No offering in 2022</small> Or ENG5008 Work integrated learning	MTE5886 Additive manufacturing of metallic materials	MEC5881 Engineering systems performance analysis	ENG5005 Research methods

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Enhancement units	Additive manufacturing technical electives
<ul style="list-style-type: none"> • ACF5903 Accounting for business • BTF5910 Corporate sustainability regulation • CHE5882 Biomass and biorefineries • CHE5883 Nanostructured membranes for separation and energy production • ECE5886 Smart grids • ECF5953 Economics • ENG5100 Professional engineer in organisation and society • MEC5882 Instrumentation, sensing and monitoring • MGF5600 Managing innovation • MGF5011 Commercialisation • MGF5020 Business ethics in a global environment • MKF5955 Marketing management - Theory and practice • MTE5883 Environmental durability and protection of metals and engineering materials • MTE5885 Biomaterials and biomechanics 	<ul style="list-style-type: none"> • ENG4700 Engineering technology for biomedical imaging and sensing • MTE4590 Modelling of materials • MTE4592 Advanced ceramics and applications • MTE4593 Materials and sustainability • MTE4594 Engineering alloy design, processing and selection • MTE4596 Biomaterials 2 • MTE4597 Engineering with nanomaterials • MTE4598 Electron microscopy • MTE5882 Advanced polymeric materials

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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	ENG5004 Advanced design project B* <i>*If you have already completed ENG5003, you must enrol in ENG5004. Otherwise, enrol in ENG5100 from 2021</i>	ENG5005 Research methods
YEAR 2 Semester 2	ENG5002 Engineering entrepreneurship <i>No offering in 2022</i> Or ENG5008 Work integrated learning	CHE5882 Biomass and biorefineries Or CHE5883 Nanostructured membranes for separation and energy production	ENG5003 Advanced design project A* <i>*Unit replaced with ENG5105 from 2021</i>	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 <i>No offering in 2022</i> Or ENG5008 Work integrated learning	CHE5882 Biomass and biorefineries	CHE5883 Nanostructured membranes for separation and energy production	ENG5005 Research methods

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Enhancement units	Chemical engineering technical electives
<ul style="list-style-type: none"> • ACF5903 Accounting for business • BTF5910 Corporate sustainability regulation • ECE5886 Smart grids • ECF5953 Economics • ENG5100 Professional engineer in organisation and society • MEC5881 Engineering systems performance analysis • MEC5882 Instrumentation, sensing and monitoring • MGF5600 Managing innovation • MGF5011 Commercialisation • MGF5020 Business ethics in a global environment • MKF5955 Marketing management - Theory and practice • MTE5883 Environmental durability and protection of metals and engineering materials • MTE5885 Biomaterials and biomechanics • MTE5886 Additive manufacturing of metallic materials • MTE5887 Additive manufacturing of polymeric and functional materials 	<ul style="list-style-type: none"> • CHE3161 Chemistry and chemical thermodynamics • CHE3162 Process control • CHE3163 Sustainable processing I • CHE3164 Reaction engineering • CHE3165 Separation processes • CHE3167 Transport phenomena and numerical methods • CHE3171 Bioprocess technology • CHE3172 Nanotechnology and materials 1 • CHE4161 Engineer in society • CHE4162 Particle technology • CHE4171 Biochemical engineering • CHE4172 Nanotechnology and materials 2 • CHE4173 Sustainable processing 2 • ENE4042 Environmental impact and risk assessment • CHE5889 Food engineering and processing

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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	ENG5004 Advanced design project B* <i>*If you have already completed ENG5003, you must enrol in ENG5004. Otherwise, enrol in ENG5100 from 2021</i>	ENG5005 Research methods
YEAR 2 Semester 2	ENG5002 Engineering entrepreneurship <i>No offering in 2022</i> Or ENG5008 Work integrated learning	CIV5887 Infrastructure rehabilitation and monitoring Or CIV5888 Advanced computational methods	ENG5003 Advanced design project A* <i>*Unit replaced with ENG5105 from 2021</i>	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 <i>No offering in 2022</i> Or ENG5008 Work integrated learning	CIV5887 Infrastructure rehabilitation and monitoring	CIV5888 Advanced computational methods	ENG5005 Research methods

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Enhancement units	Civil infrastructure systems technical electives
<ul style="list-style-type: none"> • ACF5903 Accounting for business • BTF5910 Corporate sustainability regulation • CHE5882 Biomass and biorefineries • CHE5883 Nanostructured membranes for separation and energy production • CIV5301 Advanced traffic engineering • CIV5302 Traffic engineering and management • CIV5305 Travel demand modelling • CIV5310 Infrastructure project and policy evaluation • CIV5313 Asset management • CIV5314 Planning urban mobility futures • CIV5315 Applied transport economics • CIV5316 Fundamentals of urban public transport • CIV5323 Project risk management • CIV5881 Ground water hydraulics • CIV5882 Flood hydraulics and hydrology • CIV5883 Surface water hydrology • CIV5884 Water sensitive stormwater design • CIV5899 Infrastructure information management • ECE5886 Smart grids • ECF5953 Economics • ENG5100 Professional engineer in organisation and society • MEC5881 Engineering systems performance analysis • MEC5882 Instrumentation, sensing and monitoring • MGF5600 Managing innovation • MGF5011 Commercialisation • MGF5020 Business ethics in a global environment • MKF5955 Marketing management - Theory and practice • MTE5883 Environmental durability and protection of metals and engineering materials • MTE5885 Biomaterials and biomechanics • MTE5886 Additive manufacturing of metallic materials • MTE5887 Additive manufacturing of polymeric and functional materials 	<ul style="list-style-type: none"> • CIV4234 Advanced structural analysis • CIV4235 Advanced structural design • CIV4248 Ground hazards engineering • CIV4249 Foundation engineering • CIV4261 Integrated urban water management • CIV4268 Water resources management • CIV4283 Transport planning • CIV4284 Traffic systems • ENE4607 Environmental risk assessment • ENG4700 Engineering technology for biomedical imaging and sensing

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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	ENG5004 Advanced design project B* <i>*If you have already completed ENG5003, you must enrol in ENG5004. Otherwise, enrol in ENG5100 from 2021</i>	ENG5005 Research methods
YEAR 2 Semester 2	ENG5002 Engineering entrepreneurship <i>No offering in 2022</i> Or ENG5008 Work integrated learning	CIV5301 Advanced traffic engineering Or CIV5314 Planning urban mobility futures	ENG5003 Advanced design project A* <i>*Unit replaced with ENG5105 from 2021</i>	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 <i>No offering in 2022</i> Or ENG5008 Work integrated learning	CIV5301 Advanced traffic engineering	CIV5314 Planning urban mobility futures	ENG5005 Research methods

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Enhancement units	Civil transport technical electives
<ul style="list-style-type: none"> • ACF5903 Accounting for business • BTF5910 Corporate sustainability regulation • CHE5882 Biomass and biorefineries • CHE5883 Nanostructured membranes for separation and energy production • CIV5305 Travel demand modelling • CIV5310 Infrastructure project and policy evaluation • CIV5313 Asset management • CIV5315 Applied transport economics • CIV5316 Fundamentals of urban public transport • CIV5323 Project risk management • CIV5881 Ground water hydraulics • CIV5882 Flood hydraulics and hydrology • CIV5883 Surface water hydrology • CIV5884 Water sensitive stormwater design • CIV5885 Infrastructure dynamics • CIV5886 Infrastructure geomechanics • CIV5887 Infrastructure rehabilitation and monitoring • CIV5888 Advanced computational methods • CIV5899 Infrastructure information management • ECE5886 Smart grids • ECF5953 Economics • ENG5100 Professional engineer in organisation and society • MEC5881 Engineering systems performance analysis • MEC5882 Instrumentation, sensing and monitoring • MGF5600 Managing innovation • MGF5011 Commercialisation • MGF5020 Business ethics in a global environment • MKF5955 Marketing management - Theory and practice • MTE5883 Environmental durability and protection of metals and engineering materials • MTE5885 Biomaterials and biomechanics • MTE5886 Additive manufacturing of metallic materials • MTE5887 Additive manufacturing of polymeric and functional materials 	<ul style="list-style-type: none"> • CIV4234 Advanced structural analysis • CIV4235 Advanced structural design • CIV4248 Ground hazards engineering • CIV4249 Foundation engineering • CIV4261 Integrated urban water management • CIV4268 Water resources management • CIV4283 Transport planning • CIV4284 Traffic systems • ENE4607 Environmental risk assessment • ENG4700 Engineering technology for biomedical imaging and sensing

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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	ENG5004 Advanced design project B* <i>*If you have already completed ENG5003, you must enrol in ENG5004. Otherwise, enrol in ENG5100 from 2021</i>	ENG5005 Research methods
YEAR 2 Semester 2	ENG5002 Engineering entrepreneurship <i>No offering in 2022</i> Or ENG5008 Work integrated learning	CIV5882 Flood hydraulics and hydrology	ENG5003 Advanced design project A* <i>*Unit replaced with ENG5105 from 2021</i>	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 <i>No offering in 2022</i> Or ENG5008 Work integrated learning	CIV5883 Surface water hydrology	CIV5882 Flood hydraulics and hydrology	ENG5005 Research methods

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Enhancement units	Civil water technical electives
<ul style="list-style-type: none"> • ACF5903 Accounting for business • BTF5910 Corporate sustainability regulation • CHE5882 Biomass and biorefineries • CHE5883 Nanostructured membranes for separation and energy production • CIV5301 Advanced traffic engineering • CIV5302 Traffic engineering and management • CIV5305 Travel demand modelling • CIV5310 Infrastructure project and policy evaluation • CIV5313 Asset management • CIV5314 Planning urban mobility futures • CIV5315 Applied transport economics • CIV5316 Fundamentals of urban public transport • CIV5323 Project risk management • CIV5885 Infrastructure dynamics • CIV5886 Infrastructure geomechanics • CIV5887 Infrastructure rehabilitation and monitoring • CIV5888 Advanced computational methods • CIV5899 Infrastructure information management • ECE5886 Smart grids • ECF5953 Economics • ENG5100 Professional engineer in organisation and society • MEC5881 Engineering systems performance analysis • MEC5882 Instrumentation, sensing and monitoring • MGF5600 Managing innovation • MGF5011 Commercialisation • MGF5020 Business ethics in a global environment • MKF5955 Marketing management - Theory and practice • MTE5883 Environmental durability and protection of metals and engineering materials • MTE5885 Biomaterials and biomechanics • MTE5886 Additive manufacturing of metallic materials • MTE5887 Additive manufacturing of polymeric and functional materials 	<ul style="list-style-type: none"> • CIV4234 Advanced structural analysis • CIV4235 Advanced structural design • CIV4248 Ground hazards engineering • CIV4249 Foundation engineering • CIV4261 Integrated urban water management • CIV4268 Water resources management • CIV4283 Transport planning • CIV4284 Traffic systems • ENE4607 Environmental risk assessment • ENG4700 Engineering technology for biomedical imaging and sensing

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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	ENG5004 Advanced design project B* <i>*If you have already completed ENG5003, you must enrol in ENG5004. Otherwise, enrol in ENG5100 from 2021</i>	ENG5005 Research methods
YEAR 2 Semester 2	ENG5002 Engineering entrepreneurship <i>No offering in 2022</i> Or ENG5008 Work integrated learning	ECE5882 Advanced electronics design Or ECE5884 Wireless communications	ENG5003 Advanced design project A* <i>*Unit replaced with ENG5105 from 2021</i>	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 <i>No offering in 2022</i> Or ENG5008 Work integrated learning	ECE5882 Advanced electronics design	ECE5884 Wireless communications	ENG5005 Research methods

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Enhancement units	Electrical engineering technical electives
<ul style="list-style-type: none"> • ACF5903 Accounting for business • BTF5910 Corporate sustainability regulation • CHE5882 Biomass and biorefineries • CHE5883 Nanostructured membranes for separation and energy production • ECE5886 Smart grids • ECF5953 Economics • ENG5100 Professional engineer in organisation and society • MEC5881 Engineering systems performance analysis • MEC5882 Instrumentation, sensing and monitoring • MGF5600 Managing innovation • MGF5011 Commercialisation • MGF5020 Business ethics in a global environment • MKF5955 Marketing management - Theory and practice • MTE5883 Environmental durability and protection of metals and engineering materials • MTE5885 Biomaterials and biomechanics • MTE5886 Additive manufacturing of metallic materials • MTE5887 Additive manufacturing of polymeric and functional materials 	<ul style="list-style-type: none"> • ECE4012 Applied digital signal processing • ECE4024 Wireless communications • ECE4032 Advanced control • ECE4042 Communications theory • ECE4043 Optical communications • ECE4044 Telecommunications protocols • ECE4045 Network performance • ECE4053 Power system analysis • ECE4054 Electrical energy - power converters and motor control • ECE4055 Electrical energy - power electronic applications • ECE4058 Electrical energy - high voltage engineering • ECE4063 Large scale digital design • ECE4074 Advanced computer architecture • ECE4076 Computer vision • ECE4077 Advanced computing techniques • ECE4078 Intelligent robotics • ECE4081 Medical instrumentation • ECE4084 Biomechanics of human musculoskeletal systems • ECE4086 Medical imaging technology • ECE4087 Medical technology innovation • ECE4122 Advanced electromagnetics • ECE4146 Multimedia technologies • ECE4179 Neural networks and deep learning • ECE5156 Advanced power electronics • ECE5886 Smart grids • ENG4700 Engineering technology for biomedical imaging and sensing

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E6001 Master of Advanced Engineering

Specialisation – Energy and sustainability engineering

Available in Malaysia only

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 <small>No offering in 2022</small>	MEC5886 Sustainable energy technologies	Enhancement unit	ENG5005 Research methods

Enhancement units
<ul style="list-style-type: none"> • ACF5903 Accounting for business • BTF5910 Corporate sustainability regulation • CHE5882 Biomass and biorefineries • CHE5883 Nanostructured membranes for separation and energy production • ECE5886 Smart grids • ECF5953 Economics • ENG5006 Research practice • ENG5100 Professional engineer in organisation and society • MEC5881 Engineering systems performance analysis • MEC5882 Instrumentation, sensing and monitoring • MEC5887 Environmental and air pollution control • MGF5600 Managing innovation • MGF5011 Commercialisation • MGF5020 Business ethics in a global environment • MKF5955 Marketing management - Theory and practice • MTE5883 Environmental durability and protection of metals and engineering materials • MTE5885 Biomaterials and biomechanics • MTE5886 Additive manufacturing of metallic materials • MTE5887 Additive manufacturing of polymeric and functional materials

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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	ENG5004 Advanced design project B* <i>*If you have already completed ENG5003, you must enrol in ENG5004. Otherwise, enrol in ENG5100 from 2021</i>	ENG5005 Research methods
YEAR 2 Semester 2	ENG5002 Engineering entrepreneurship <small>No offering in 2022</small> Or ENG5008 Work integrated learning	MTE5881 Applied crystallography in advanced materials characterisation Or MTE5883 Environmental durability and protection of metals and engineering materials	ENG5003 Advanced design project A* <i>*Unit replaced with ENG5105 from 2021</i>	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 <small>No offering in 2022</small> 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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Enhancement units	Materials engineering technical electives
<ul style="list-style-type: none"> • ACF5903 Accounting for business • BTF5910 Corporate sustainability regulation • CHE5882 Biomass and biorefineries • CHE5883 Nanostructured membranes for separation and energy production • ECE5886 Smart grids • ECF5953 Economics • ENG5100 Professional engineer in organisation and society • MEC5881 Engineering systems performance analysis • MEC5882 Instrumentation, sensing and monitoring • MEC5891 Design for additive manufacturing • MGF5600 Managing innovation • MGF5011 Commercialisation • MGF5020 Business ethics in a global environment • MKF5955 Marketing management - Theory and practice • MTE5885 Biomaterials and biomechanics • MTE5886 Additive manufacturing of metallic materials • MTE5887 Additive manufacturing of polymeric and functional materials 	<ul style="list-style-type: none"> • ENG4700 Engineering technology for biomedical imaging and sensing • MTE4590 Modelling of materials • MTE4592 Advanced ceramics and applications • MTE4593 Materials and sustainability • MTE4594 Engineering alloy design, processing and selection • MTE4596 Biomaterials 2 • MTE4597 Engineering with nanomaterials • MTE4598 Electron microscopy

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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	ENG5004 Advanced design project B* <i>*If you have already completed ENG5003, you must enrol in ENG5004. Otherwise, enrol in ENG5100 from 2021</i>	ENG5005 Research methods
YEAR 2 Semester 2	ENG5002 Engineering entrepreneurship <small>No offering in 2022</small> Or ENG5008 Work integrated learning	MEC5881 Engineering systems performance analysis Or MEC5884 Sustainable engineering systems	ENG5003 Advanced design project A* <i>*Unit replaced with ENG5105 from 2021</i>	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 <small>No offering in 2022</small> Or ENG5008 Work integrated learning	MEC5881 Engineering systems performance analysis	MEC5884 Sustainable engineering systems	ENG5005 Research methods

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Enhancement units	Mechanical engineering technical electives
<ul style="list-style-type: none"> • ACF5903 Accounting for business • BTF5910 Corporate sustainability regulation • CHE5882 Biomass and biorefineries • CHE5883 Nanostructured membranes for separation and energy production • ECE5886 Smart grids • ECF5953 Economics • ENG5100 Professional engineer in organisation and society • MEC5891 Design for additive manufacturing • MGF5600 Managing innovation • MGF5011 Commercialisation • MGF5020 Business ethics in a global environment • MKF5955 Marketing management - Theory and practice • MTE5883 Environmental durability and protection of metals and engineering materials • MTE5885 Biomaterials and biomechanics • MTE5886 Additive manufacturing of metallic materials • MTE5887 Additive manufacturing of polymeric and functional materials 	<ul style="list-style-type: none"> • ENG4700 Engineering technology for biomedical imaging and sensing • MEC4416 Momentum, energy and mass transport in engineering systems • MEC4418 Control systems • MEC4425 Micro/nano solid and fluid mechanics • MEC4426 Computer-aided design • MEC4428 Advanced dynamics • MEC4444 Industrial noise and control • MEC4446 Composite structures • MEC4447 Computers in fluids and energy • MEC4456 Robotics • MEC4459 Wind engineering • TRC4200 Engineering cyber-physical systems • MEC5897 Lean manufacturing

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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* <i>* Unit replaced in 2021. Please seek dept course advice.</i>	Enhancement unit	Technical elective unit	Technical elective unit
YEAR 2 Semester 1	BMA5011 Introduction to human bioscience for engineering	MTE5885 Biomaterials and biomechanics	ENG5004 Advanced design project B* <i>*If you have already completed ENG5003, you must enrol in ENG5004. Otherwise, enrol in ENG5100 from 2021</i>	ENG5005 Research methods
YEAR 2 Semester 2	ENG5002 Engineering entrepreneurship <i>No offering in 2022</i> Or ENG5008 Work integrated learning	ENG5007 Translation and commercialisation of medical technologies* Or MEC5889 Medical device technologies* <i>* Unit replaced in 2021. Please seek dept course advice.</i>	ENG5003 Advanced design project A* <i>*Unit replaced with ENG5105 from 2021</i>	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 <i>No offering in 2022</i> Or ENG5008 Work integrated learning	ENG5007 Translation and commercialisation of medical technologies* <i>* Unit replaced from 2021. Please seek dept course advice.</i>	MEC5889 Medical device technologies* <i>* Unit replaced from 2021. Please seek dept course advice.</i>	ENG5005 Research methods

Course progression map for 2020 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](#). Please note that the map is subject to updates. Update version: 23 September 2021

Enhancement units	Medical engineering technical electives
<ul style="list-style-type: none"> • ACF5903 Accounting for business • BTF5910 Corporate sustainability regulation • CHE5882 Biomass and biorefineries • CHE5883 Nanostructured membranes for separation and energy production • ECE5886 Smart grids • ECF5953 Economics • ENG5100 Professional engineer in organisation and society • MEC5881 Engineering systems performance analysis • MEC5882 Instrumentation, sensing and monitoring • MGF5600 Managing innovation • MGF5011 Commercialisation • MGF5020 Business ethics in a global environment • MKF5955 Marketing management - Theory and practice • MTE5883 Environmental durability and protection of metals and engineering materials • MTE5886 Additive manufacturing of metallic materials • MTE5887 Additive manufacturing of polymeric and functional materials 	<ul style="list-style-type: none"> • CHE4172 Nanotechnology and materials 2 • ECE4076 Computer vision • ECE4081 Medical instrumentation • ECE4086 Medical imaging technology • ECE4087 Medical technology innovation • ECE4179 Neural networks and deep learning • ENG4700 Engineering technology for biomedical imaging and sensing • MEC4425 Micro/nano solid and fluid mechanics • MEC4426 Computer-aided design • MEC4456 Robotics • MTE4596 Biomaterials 2 • MTE4597 Engineering with nanomaterials • MEC5881 Engineering systems performance analysis • MEC5882 Instrumentation, sensing and monitoring • MEC5883 Mechanical systems design • MTE5882 Advanced polymeric materials

The unit listings are subject to updates

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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	ENG5004 Advanced design project B* <i>*If you have already completed ENG5003, you must enrol in ENG5004. Otherwise, enrol in ENG5100 from 2021</i>	ENG5005 Research methods
YEAR 2 Semester 2	ENG5002 Engineering entrepreneurship <i>No offering in 2022</i> Or ENG5008 Work integrated learning	ECE5886 Smart grids Or MEC5888 Renewable energy systems	ENG5003 Advanced design project A* <i>*Unit replaced with ENG5105 from 2021</i>	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 <i>No offering in 2022</i> Or ENG5008 Work integrated learning	ECE5886 Smart grids	MEC5888 Renewable energy systems	ENG5005 Research methods

Course progression map for 2020 commencing students

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Enhancement units	Renewable and sustainable energy engineering technical electives
<ul style="list-style-type: none"> • ACF5903 Accounting for business • BTF5910 Corporate sustainability regulation • CHE5882 Biomass and biorefineries • CHE5883 Nanostructured membranes for separation and energy production • ECF5953 Economics • ENG5100 Professional engineer in organisation and society • MEC5881 Engineering systems performance analysis • MEC5882 Instrumentation, sensing and monitoring • MGF5600 Managing innovation • MGF5011 Commercialisation • MGF5020 Business ethics in a global environment • MKF5955 Marketing management - Theory and practice • MTE5883 Environmental durability and protection of metals and engineering materials • MTE5885 Biomaterials and biomechanics • MTE5886 Additive manufacturing of metallic materials • MTE5887 Additive manufacturing of polymeric and functional materials 	<ul style="list-style-type: none"> • CHE4161 Engineer in society • CHE4171 Biochemical engineering • CHE4172 Nanotechnology and materials 2 • CHE4173 Sustainable processing 2 • CIV4234 Advanced structural analysis • CIV4235 Advanced structural design • CIV4248 Ground hazards engineering • CIV4249 Foundation engineering • CIV4283 Transport planning • CIV4284 Traffic systems • ECE4053 Power system analysis • ECE4054 Electrical energy - power converters and motor control • ECE4055 Electrical energy - power electronic applications • ECE4058 Electrical energy - high voltage engineering • ENE4607 Environmental risk assessment • MEC4418 Control systems • MEC4426 Computer-aided design • MEC4444 Industrial noise and control • MEC4446 Composite structures • MEC4447 Computers in fluids and energy • MEC4459 Wind engineering • MEC4802 Sustainable engineering and design with nanomaterials • MTE4572 Polymer and composite processing and engineering • MTE4573 Processing and engineering of metals and ceramics • MTE4590 Modelling of materials • MTE4592 Advanced ceramics and applications • MTE4593 Materials and sustainability • MTE4594 Engineering alloy design, processing and selection • MTE4597 Engineering with nanomaterials • CHE5881 Advanced reaction engineering • MEC5883 Mechanical systems design • MEC5884 Sustainable energy systems • MTE5882 Advanced polymeric materials

The unit listings are subject to updates