

# Course progression map for 2017 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](#). The map is subject to updates. Update version: 10 October 2020

## **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	ENG5002 Engineering entrepreneurship	Enhancement unit	Technical elective unit	Technical elective unit
Year 2 Semester 1	CHE5881 Advanced reaction engineering	CHE5884 Process modeling and optimisation	ENG5003 Advanced design project A	ENG5005 Engineering project A <i>*Unit title change in 2019</i>
Year 2 Semester 2	CHE5882 Biomass and biorefineries	CHE5883 Nanostructured membranes for separation and energy production	ENG5004 Advanced design project B	ENG5006 Engineering project B <i>*Unit title change in 2019</i>

#### **Entry level 2 (1 year)**

Year 1 Semester 1	ENG5001 Advanced engineering data analysis	CHE5881 Advanced reaction engineering	CHE5884 Process modeling and optimisation	Enhancement unit
Year 1 Semester 2	ENG5002 Engineering entrepreneurship	CHE5882 Biomass and biorefineries	CHE5883 Nanostructured membranes for separation and energy production	Enhancement unit

Part A. Common core units
Part B. Enhancement units
Part D. Discipline core units
Engineering project units

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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	ENG5002 Engineering entrepreneurship	Enhancement unit	Technical elective unit	Technical elective unit
Year 2 Semester 1	CIV5885 Infrastructure dynamics	CIV5886 Infrastructure geomechanics	ENG5003 Advanced design project A	ENG5005 Engineering project A <i>*Unit title change in 2019</i>
Year 2 Semester 2	CIV5887 Infrastructure rehabilitation and monitoring	CIV5888 Advanced computational methods	ENG5004 Advanced design project B	ENG5006 Engineering project B <i>*Unit title change in 2019</i>

#### **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	CIV5887 Infrastructure rehabilitation and monitoring	CIV5888 Advanced computational methods	Enhancement unit

Part A. Common core units
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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	ENG5002 Engineering entrepreneurship	Enhancement unit	Technical elective unit	Technical elective unit
Year 2 Semester 1	CIV5302 Traffic engineering and management	CIV5305 Travel demand modelling	ENG5003 Advanced design project A	ENG5005 Engineering project A <i>*Unit title change in 2019</i>
Year 2 Semester 2	CIV5301 Advanced traffic engineering	CIV5314 Planning urban transport systems <i>*Unit title change in 2019</i>	ENG5004 Advanced design project B	ENG5006 Engineering project B <i>*Unit title change in 2019</i>

#### **Entry level 2 (1 year)**

Year 1 Semester 1	ENG5001 Advanced engineering data analysis	CIV5302 Traffic engineering and management	CIV5305 Travel demand modelling	Enhancement unit
Year 1 Semester 2	ENG5002 Engineering entrepreneurship	CIV5301 Advanced traffic engineering	CIV5314 Planning urban transport systems <i>*Unit title change in 2019</i>	Enhancement unit

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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	ENG5002 Engineering entrepreneurship	Enhancement unit	Technical elective unit	Technical elective unit
Year 2 Semester 1	CIV5883 Surface water hydrology	CIV5882 Flood hydraulics and hydrology	ENG5003 Advanced design project A	ENG5005 Engineering project A <i>*Unit title change in 2019</i>
Year 2 Semester 2	CIV5881 Ground water hydrology	CIV5884 Water sensitive stormwater design	ENG5004 Advanced design project B	ENG5006 Engineering project B <i>*Unit title change in 2019</i>

#### **Entry level 2 (1 year)**

Year 1 Semester 1	ENG5001 Advanced engineering data analysis	CIV5883 Surface water hydrology	CIV5882 Flood hydraulics and hydrology	Enhancement unit
Year 1 Semester 2	ENG5002 Engineering entrepreneurship	CIV5881 Ground water hydrology	CIV5884 Water sensitive stormwater design	Enhancement unit

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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	ENG5002 Engineering entrepreneurship	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	ENG5005 Engineering project A <i>*Unit title change in 2019</i>
Year 2 Semester 2	ECE5882 Advanced electronics design	ECE5884 Wireless communications	ENG5004 Advanced design project B	ENG5006 Engineering project B <i>*Unit title change in 2019</i>

#### **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	ECE5882 Advanced electronics design	ECE5884 Wireless communications	Enhancement unit

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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	ENG5002 Engineering entrepreneurship	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	ENG5005 Engineering project A <i>*Unit title change in 2019</i>
Year 2 Semester 2	MTE5881 Advanced materials characterisation and experimental methods <i>* Unit title change in 2019</i>	MTE5883 Environmental durability and protection of metals and engineering materials	ENG5004 Advanced design project B	ENG5006 Engineering project B <i>*Unit title change in 2019</i>

#### **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	MTE5881 Advanced materials characterisation and experimental methods <i>* Unit title change in 2019</i>	MTE5883 Environmental durability and protection of metals and engineering materials	Enhancement unit

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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	ENG5002 Engineering entrepreneurship	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	ENG5005 Engineering project A <i>*Unit title change in 2019</i>
Year 2 Semester 2	MEC5881 Engineering systems performance analysis	MEC5884 Sustainable engineering systems	ENG5004 Advanced design project B	ENG5006 Engineering project B <i>*Unit title change in 2019</i>

#### **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	MEC5881 Engineering systems performance analysis	MEC5884 Sustainable engineering systems	Enhancement unit

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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	ECE5885 Energy efficient lighting	MEC5885 Energy efficiency and sustainability engineering
Year 1 Semester 2	ENG5002 Engineering entrepreneurship	MEC5886 Sustainable energy technologies	Enhancement unit	Enhancement unit

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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	ENG5002 Engineering entrepreneurship	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	ENG5005 Engineering project A <i>*Unit title change in 2019</i>
Year 2 Semester 2	ENG5007 Translation and commercialisation of medical technologies	MEC5889 Medical device technologies	ENG5004 Advanced design project B	ENG5006 Engineering project B <i>*Unit title change in 2019</i>

#### **Entry level 2 (1 year)**

Year 1 Semester 1	ENG5001 Advanced engineering data analysis	MED5xxx Human anatomy, physiology and clinical trials	MTE5xxx Biomaterials and biomechanics	Enhancement unit
Year 1 Semester 2	ENG5002 Engineering entrepreneurship	ENG5xxx Translation and commercialisation of medical technologies	MEC5889 Medical device technologies	Enhancement unit

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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	ENG5002 Engineering entrepreneurship	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	ENG5005 Engineering project A <i>*Unit title change in 2019</i>
Year 2 Semester 2	ECE5886 Smart grids	MEC5888 Renewable energy systems	ENG5004 Advanced design project B	ENG5006 Engineering project B <i>*Unit title change in 2019</i>

#### **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	ECE5886 Smart grids	MEC5888 Renewable energy systems	Enhancement unit

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