

Mechanical Engineering Re-enrolment Guide 2027

(Prepared by Course Director, Associate Professor Ir Dr Darwin &
Course Director, Common Engineering, Dr Khong Wei Leong - Version 1.9.2026)

- Students are required to [re-enrol for both Semester 1 and Semester 2](#) via [WES](#) (except for final semester students)
- All students MUST complete the [Malaysia General Studies](#) and [Industrial Training](#) before course completion
- Official Faculty of Engineering Course Maps, Elective and Minor website [link](#) (follow your commencing year intake)
- If you encounter issues with enrolment, please submit [SORS enrolment form](#)

Intake: Commencing July and Oct 2027

Units to be enrolled for Second Semester of Year 1 - Semester 1 2027

Semester 1 2027 units

Students who have completed ENG1090 combination in previous semester:

ENG1012	Engineering for People and Planet
ENG1014	Engineering Numerical Analysis
ENG1005	Engineering Mathematics
Choose ONE technical elective from below:	
- PHS1002 Physics for engineering - CHM1051 Chemistry 1 advanced (recommended for Chemical Engineering) - MEC2811 Manufacturing Processes - ENG1813 Next-Gen uncrewed vehicle - FIT1045 Introduction to programming - CHE2167 Process material selection - CHE2871 Biochemistry for engineers - BIO1011 Blueprints for life (Compulsory elective for Biomedical Engineering)	
Software Engineering students are recommended to complete FIT1045 as a breadth study unit.	

Students who have completed ENG1005 in previous semester:

ENG1012	Engineering for People and Planet
ENG1014	Engineering Numerical Analysis
Choose TWO technical electives from below:	
- PHS1002 Physics for engineering - CHM1051 Chemistry 1 advanced (recommended for Chemical Engineering) - MEC2811 Manufacturing Processes - ENG1813 Next-Gen uncrewed vehicle - FIT1045 Introduction to programming - CHE2167 Process material selection - CHE2871 Biochemistry for engineers - BIO1011 Blueprints for life (Compulsory elective for Biomedical Engineering)	
Software Engineering students are recommended to complete FIT1045 as a breadth study unit.	

Units to be enrolled for First Semester of Year 2 in Semester 2 2027

Students can enroll in their Year 2 semester 1 units based on their specialisation stated in the university offer letter.

Semester 2 2027 units

Mechanical Engineering

Core units

Unit Code	Unit Title
MMA2003	Thermofluids1
MMA2004	Dynamics 1
MMA2005	Modelling and Control

Select 1 elective below:

Unit Code	Unit Title	Minor
MEC2812	Machine learning in industrial systems	NA
ECE2191	Probability and AI for engineers	Artificial Intelligence in Engineering
TRC2001	Introduction to Systems Engineering	Design and Manufacturing
ECE2072	Digital systems	Semiconductor

*IMPORTANT NOTE - End of Semester 1 2027

- Kindly ensure that your specialisation ('Area of Study') in WES is the **same as** your offer letter and international student pass.
- When the Semester 1 2027 exam results are released, kindly check that you have met the *prerequisites* of these Year 2 units. If you do not meet the pre / co-requisites, then the unit enrolled will become **INVALID**.
- Students who could **NOT PASS ALL CORE Year 1 UNITS**, MUST seek enrolment advice from the Course Director, Common Engineering (Dr Khong Wei Leong, khong.weileong@monash.edu)

Intake: Commencing February 2026

Mechanical Engineering

Semester 1 2027 units

Core units

Unit Code	Unit Title
ENG2005	Advanced Engineering Mathematics
MMA2001	Design 1
MMA2002	Solid Mechanics 1

Select 1 elective below:

Unit Code	Unit Title	Minor
MEC2811	Manufacturing Processes	• Design and Manufacturing • Intelligent Manufacturing
MEC3821	Introduction to Electric Vehicle Technology	• Sustainable Energy Transition • Internet of Things (IoT) • Electric Vehicle Technology
ECE2071	Computer Organisation and Programming	Sensory systems in Industry 4.0
ECE2131	Electrical Circuits	• Electric Vehicle Technology • Semiconductor • Sensory Systems in Industry 4.0

Semester 2 2027 units

Core units

Unit Code	Unit Title
MMA2003	Thermofluids1
MMA2004	Dynamics 1
MMA2005	Modelling and Control

Select 1 elective below:

Unit Code	Unit Title	Minor
MEC2812	Machine learning in industrial systems	NA
MEC3800	Introduction to Reliability Engineering (If you have completed ENG2005)	• Design and Manufacturing • Intelligent Manufacturing • Semiconductor
ECE2072	Digital systems	Semiconductor
ECE2191	Probability and AI for engineers	Artificial Intelligence in Engineering
TRC2001	Introduction to Systems Engineering	Design and Manufacturing

Intake: Commencing July and Oct 2025

Mechanical Engineering

Semester 1 2027 units

Core units

Unit Code	Unit Title
ENG2005	Advanced Engineering Mathematics
MMA2001	Design 1
MMA2002	Solid Mechanics 1

Select 1 elective below:

Unit Code	Unit Title	Minor
MEC2811	Manufacturing Processes	• Design and Manufacturing • Intelligent Manufacturing
MEC3821	Introduction to Electric Vehicle Technology	• Sustainable Energy Transition • Internet of Things (IoT) • Electric Vehicle Technology
ECE2071	Computer Organisation and Programming	Sensory systems in Industry 4.0
ECE2131	Electrical Circuits	• Electric Vehicle Technology • Semiconductor • Sensory Systems in Industry 4.0

Semester 2 2027 units

Core units

Unit Code	Unit Title
MMA3001	Numerical Methods and Machine Learning
MEC3416	Mechanical Design 2
MEC3453	Mechanical Dynamics 2

Select 1 elective below:

Unit Code	Unit Title	Minor
MEC3800	Introduction to Reliability Engineering	• Design and Manufacturing • Intelligent Manufacturing • Semiconductor
MEC4417	Energy-efficient cooling systems	• Sustainable Energy Transition • Decarbonisation and net zero
CHE4807	Carbon footprint and energy management	• Sustainable Energy Transition • Decarbonisation and net zero
TRC4902	Mechatronics and Manufacturing	• Internet of Things (IoT) • Intelligent Manufacturing

ECE3161	Analogue Electronics	Electric Vehicle Technology
ECE4078	Intelligent Robotics	• Sensory systems in Industry 4.0 • Artificial intelligence in engineering
ECE4808	Microsystems and Semiconductor Fabrication	Semiconductor
ECE4810	Internet of Things: Communication, Data and Security	• Artificial intelligence in engineering • Internet of Things (IoT)

Intake: Commencing February 2025

Mechanical Engineering

Semester 1 2027 units

Core units

Unit Code	Unit Title
MEC3451	Fluid Mechanics 2
MEC3455	Solid Mechanics 2
MEC3001	Material Properties and Selection

Select 1 elective below:

Unit Code	Unit Title	Minor
MEC3821	Introduction to Electric Vehicle Technology	• Sustainable Energy Transition • Internet of Things (IoT) • Electric Vehicle Technology
MEC3822	Artificial Intelligence in Manufacturing	Intelligent Manufacturing
MEC4801	Non-destructive testing and inspection	Intelligent manufacturing
MEC4803	Sustainable combustion technologies	• Sustainable Energy Transition • Decarbonisation and net zero
TRC3500	Sensors and Artificial Perception	Sensory systems in Industry 4.0
CIV4100	Autonomous vehicle systems	• Electric Vehicle Technology • Artificial intelligence in engineering
CHE4803	Carbon capture, storage and utilisation	• Sustainable Energy Transition • Decarbonisation and net zero
CHE4806	Low-carbon technology	Decarbonisation and net zero
ECE3051	Electrical energy systems	Electric Vehicle Technology
ECE3141	Information and networks	Internet of Things (IoT)
ECE4063	Integrated circuit design	Semiconductor
ECE4076	Computer vision	Artificial intelligence in engineering
ECE4179	Neural networks and deep learning	Artificial intelligence in engineering

Semester 2 2027 units

Core units

Unit Code	Unit Title
MMA3001	Numerical Methods and Machine Learning
MEC3416	Mechanical Design 2
MEC3453	Mechanical Dynamics 2

Select 1 elective below:

Unit Code	Unit Title	Minor
MEC3800	Introduction to Reliability Engineering	• Design and Manufacturing • Intelligent Manufacturing • Semiconductor
MEC4417	Energy-efficient cooling systems	• Sustainable Energy Transition • Decarbonisation and net zero
CHE4807	Carbon footprint and energy management	• Sustainable Energy Transition • Decarbonisation and net zero
TRC4902	Mechatronics and Manufacturing	• Internet of Things (IoT) • Intelligent Manufacturing
ECE3161	Analogue Electronics	Electric Vehicle Technology
ECE4078	Intelligent Robotics	• Sensory systems in Industry 4.0 • Artificial intelligence in engineering
ECE4808	Microsystems and Semiconductor Fabrication	Semiconductor
ECE4810	Internet of Things: Communication, Data and Security	• Artificial intelligence in engineering • Internet of Things (IoT)
ECE4886	Smart grids	Electric Vehicle Technology

Semester Summer Semester A - SSA-0A

Students who have completed 120 credit points in their engineering studies and have not yet enrolled in ENG0002 are required to enrol in ENG0002 Industrial Training for the SSA-02 semester.

Intake: Commencing July and Oct 2024

Mechanical Engineering

Semester 1 2027 units

Core units

Unit Code	Unit Title
MEC3451	Fluid Mechanics 2
MEC3455	Solid Mechanics 2
MEC3001	Material Properties and Selection

Select 1 elective below:

Unit Code	Unit Title	Minor
MEC3821	Introduction to Electric Vehicle Technology	• Sustainable Energy Transition • Internet of Things (IoT) • Electric Vehicle Technology
MEC3822	Artificial Intelligence in Manufacturing	Intelligent Manufacturing
MEC4801	Non-destructive testing and inspection	Intelligent manufacturing
MEC4803	Sustainable combustion technologies	• Sustainable Energy Transition • Decarbonisation and net zero
TRC3500	Sensors and Artificial Perception	Sensory systems in Industry 4.0
CIV4100	Autonomous vehicle systems	• Electric Vehicle Technology • Artificial intelligence in engineering
CHE4803	Carbon capture, storage and utilisation	• Sustainable Energy Transition • Decarbonisation and net zero
CHE4806	Low-carbon technology	Decarbonisation and net zero
ECE3051	Electrical energy systems	Electric Vehicle Technology
ECE3141	Information and networks	Internet of Things (IoT)
ECE4063	Integrated circuit design	Semiconductor
ECE4076	Computer vision	Artificial intelligence in engineering
ECE4179	Neural networks and deep learning	Artificial intelligence in engineering

Semester 2 2027 units

Core units

Unit Code	Unit Title
ENG4701	Final Year Project A
MEC4407	Mechanical Design 2
MMA4001	Finite Element Analysis
MEC3453	Mechanical Dynamics 2

Select 1 elective below (IF you have taken any of the above core units):

Unit Code	Unit Title	Minor
MEC3800	Introduction to Reliability Engineering	• Design and Manufacturing • Intelligent Manufacturing • Semiconductor
MEC4417	Energy-efficient cooling systems	• Sustainable Energy Transition • Decarbonisation and net zero
CHE4807	Carbon footprint and energy management	• Sustainable Energy Transition • Decarbonisation and net zero
TRC4902	Mechatronics and Manufacturing	• Internet of Things (IoT) • Intelligent Manufacturing
ECE3161	Analogue Electronics	Electric Vehicle Technology
ECE4078	Intelligent Robotics	• Sensory systems in Industry 4.0 • Artificial intelligence in engineering
ECE4808	Microsystems and Semiconductor Fabrication	Semiconductor
ECE4810	Internet of Things: Communication, Data and Security	• Artificial intelligence in engineering • Internet of Things (IoT)
ECE4886	Smart grids	Electric Vehicle Technology
MEC5886	Sustainable Energy Technologies	You must obtain a weighted average mark (WAM) of 65 or above at the conclusion of level 3 and be in your final year to be eligible to enroll in up to two level 5 units in your course. These courses are typically taught at night or during weekends and may need to apply via SORS manual enrolment.
MEC5897	Lean Manufacturing	

Semester Summer Semester A - SSA-02

Students who have completed 120 credit points in their engineering studies and have not yet enrolled in ENG0002 are required to enrol in ENG0002 Industrial Training for the SSA-02 semester.

Intake: Commencing February 2024

Mechanical Engineering

Semester 1 2027 units

Core units

Unit Code	Unit Title
ENG4701	Final Year Project A
ENG4801	Professional Practice (Curriculum embedded)
MEC4408	Thermodynamics 2 and Heat transfer

Select 1 elective below:

Unit Code	Unit Title	Minor
MEC3001	Material Properties and Selection	COMPULSORY ELECTIVE: must complete if you plan to register as a Mechanical Engineer with the Board of Engineers Malaysia in the future and if not attempted previously (Replace MEC3459 from 2026 onward)
MEC3821	Introduction to Electric Vehicle Technology	• Sustainable Energy Transition • Internet of Things (IoT) • Electric Vehicle Technology
MEC3822	Artificial Intelligence in Manufacturing	Intelligent Manufacturing
MEC4801	Non-destructive testing and inspection	Intelligent manufacturing
MEC4803	Sustainable combustion technologies	• Sustainable Energy Transition • Decarbonisation and net zero
TRC3500	Sensors and Artificial Perception	Sensory systems in Industry 4.0
CIV4100	Autonomous vehicle systems	• Electric Vehicle Technology • Artificial intelligence in engineering
CHE4803	Carbon capture, storage and utilisation	• Sustainable Energy Transition • Decarbonisation and net zero
CHE4806	Low-carbon technology	Decarbonisation and net zero
ECE3051	Electrical energy systems	Electric Vehicle Technology
ECE3141	Information and networks	Internet of Things (IoT)
ECE4063	Integrated circuit design	Semiconductor
ECE4076	Computer vision	Artificial intelligence in engineering
ECE4179	Neural networks and deep learning	Artificial intelligence in engineering
MEC5885	Energy efficiency and sustainability engineering	You must obtain a weighted average mark (WAM) of 65 or above at the conclusion of level 3 and be in your final year to be eligible to enroll in up to two level 5 units in your course. These courses are typically taught at night or during weekends and may need to apply via SORS manual enrolment.
TRC5801	Operations and Supply Chain Management	

Semester 2 2027 units

Core units

Unit Code	Unit Title
ENG4702	Final Year Project B
MEC4407	Mechanical Design 2
MMA4001	Finite Element Analysis

Select 1 elective below:

Unit Code	Unit Title	Minor
MEC3800	Introduction to Reliability Engineering	• Design and Manufacturing • Intelligent Manufacturing • Semiconductor
MEC4417	Energy-efficient cooling systems	• Sustainable Energy Transition • Decarbonisation and net zero
CHE4807	Carbon footprint and energy management	• Sustainable Energy Transition • Decarbonisation and net zero
TRC4902	Mechatronics and Manufacturing	• Internet of Things (IoT) • Intelligent Manufacturing
ECE3161	Analogue Electronics	Electric Vehicle Technology
ECE4078	Intelligent Robotics	• Sensory systems in Industry 4.0 • Artificial intelligence in engineering
ECE4808	Microsystems and Semiconductor Fabrication	Semiconductor
ECE4810	Internet of Things: Communication, Data and Security	• Artificial intelligence in engineering • Internet of Things (IoT)
ECE4886	Smart grids	Electric Vehicle Technology
MEC5886	Sustainable Energy Technologies	You must obtain a weighted average mark (WAM) of 65 or above at the conclusion of level 3 and be in your final year to be eligible to enroll in up to two level 5 units in your course. These courses are typically taught at night or during weekends and may need to apply via SORS manual enrolment.
MEC5897	Lean Manufacturing	

Semester Summer Semester A - SSA-02

Students who have completed 120 credit points in their engineering studies and have not yet enrolled in ENG0002 are required to enrol in ENG0002 Industrial Training for the SSA-02 semester.

Intake: Commencing July and Oct 2023

Mechanical Engineering

Semester 1 2027 units

Core units

Unit Code	Unit Title
ENG4701	Final Year Project A
ENG4801	Professional Practice (Curriculum embedded)
MEC4408	Thermodynamics 2 and Heat transfer

Select 1 elective below:

Unit Code	Unit Title	Minor
MEC3001	Material Properties and Selection	COMPULSORY ELECTIVE: must complete if you plan to register as a Mechanical Engineer with the Board of Engineers Malaysia in the future and if not attempted previously (Replace MEC3459 from 2026 onward)
MEC3821	Introduction to Electric Vehicle Technology	- Sustainable Energy Transition - Internet of Things (IoT) - Electric Vehicle Technology
MEC3822	Artificial Intelligence in Manufacturing	Intelligent Manufacturing
MEC4801	Non-destructive testing and inspection	Intelligent manufacturing
MEC4803	Sustainable combustion technologies	- Sustainable Energy Transition - Decarbonisation and net zero
TRC3500	Sensors and Artificial Perception	Sensory systems in Industry 4.0
CIV4100	Autonomous vehicle systems	- Electric Vehicle Technology - Artificial intelligence in engineering
CHE4803	Carbon capture, storage and utilisation	- Sustainable Energy Transition - Decarbonisation and net zero
CHE4806	Low-carbon technology	Decarbonisation and net zero
ECE3051	Electrical energy systems	Electric Vehicle Technology
ECE3141	Information and networks	Internet of Things (IoT)
ECE4063	Integrated circuit design	Semiconductor
ECE4076	Computer vision	Artificial intelligence in engineering
ECE4179	Neural networks and deep learning	Artificial intelligence in engineering
MEC5885	Energy efficiency and sustainability engineering	You must obtain a weighted average mark (WAM) of 65 or above at the conclusion of level 3 and be in your final year to be eligible to enroll in up to two level 5 units in your course. These courses are typically taught at night or
TRC5801	Operations and Supply Chain Management	

		during weekends and may need to apply via SORS manual enrolment.
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