

# COURSE PLANNER

## Bachelor of Engineering (Honours) (Robotics and Mechatronics)

### BH-ERM

Semester 1 | 2025

#### Recommended Sequence

Units are listed on your Course Planner in a recommended sequence. However, this can be amended depending on unit availability, unit progression, timetabling and the semester in which you commenced your course.

### Year One

Semester 1   Feb/Mar 2024		
Unit Code	Unit Name	Pre-requisites
COS10009	Introduction to Programming	Nil
PHY10001	Energy and Motion	Nil
ENG10001	Humanitarian Engineering Design Project	Nil
MTH10012	Calculus and Applications	Nil
MPU3273	Integrity and Anti-Corruption (Malaysian and International Students)	Nil
Winter Term   June 2024		
MPU3212	Bahasa Kebangsaan A (Malaysian students who do not have SPM Bahasa Melayu credit)	Nil
Semester 2   Aug/Sept 2024		
COS10025	Technology in an indigenous Context Project	Nil
ENG10002	Engineering Materials	Nil
ENG10003	Engineering Mechanics	Nil
MTH10013	Linear Algebra and Applications	Nil
MPU3193	Philosophy and Current Issues (Malaysian and International Students)	Nil

### Year Two

Semester 3   Feb/Mar 2025		
Unit Code	Unit Name	Pre-requisites
MEE20004	Structural Mechanics	ENG10003
EEE20006 <sup>@</sup>	Circuits and Electronics 1	MTH10013 & PHY10004/COS10025
MEE20007 <sup>@</sup>	Design and Product Visualisation Project	ENG10001
ENG20009	Engineering Technology Inquiry Project	Nil
MPU3183	Penghayatan Etika dan Peradaban (Malaysian Students Only)	Nil
MPU3143	Malay Language Communication 2 (International Students Only)	Nil
Semester 4   Aug/Sept 2025		
COS20007 <sup>@</sup>	Object Oriented Programming	COS10009/SWE20004
MEE20006	Engineering Dynamics	MTH10013 & MTH10012 & PHY10001
MTH20017	Mathematical Methods and Statistics for Engineering	MTH10012 & MTH10013
ENG20010	Engineering Technology Design Project	Nil

### Year Three

Semester 5   Feb/Mar 2026		
Unit Code	Unit Name	Pre-requisites
RME30002 <sup>@</sup>	Control and Automation	EEE20002/EEE20006 & MTH10012
TNE20003	Internet and Cybersecurity for Engineering Applications	Nil
MEE30005	Machine Design Project	MEE20004
ENG30002 <sup>@</sup>	Engineering Technology Sustainability Project	Nil
EAT20008	Professional Experience in Engineering <sup>#</sup>	Introductory Seminar
Semester 6   Aug/Sept 2026		
RME30003 <sup>@</sup>	Robotic Control	RME30002
RME40002 <sup>@</sup>	Mechatronics Systems Design	EEE20003/ENG20009
ENG40011 <sup>@</sup>	Engineering Technology Innovation Project	Nil
	Elective Unit	

### Year Four

Semester 7   Feb/Mar 2027		
Unit Code	Unit Name	Pre-requisites
ENG40007 <sup>@</sup>	Engineering Technology Project A	250 CPs
RME40003 <sup>@</sup>	Robot Systems Design	250 CPs
	Elective Unit	
	Elective Unit	
Semester 8   Aug/Sept 2027		
ENG40008 <sup>@</sup>	Engineering Technology Project B	ENG40007
EEE40017 <sup>@</sup>	Machine Vision	EEE20006 & MTH20014/MTH20010/MTH20017
TNE30024	Deploying Secure Engineering Applications Online	TNE20003
	Elective Unit	

#### Notes

- # EAT20008 Professional Experience in Engineering is compulsory for all engineering students and must be taken before the last semester of study as part of EAC's requirement. Introductory Seminar will be conducted in week 4 of normal semester.
- @ Honours merit units

#### How to use your Course Planner

Refer to the below table to help explain what units are required each semester throughout your course. The units in your planner are colour coded to assist you with mapping out your studies.

#### Course Information

Each unit is equivalent to 12.5 credit points.

To qualify for the award of this course, students must complete 33 units (400 credit points) in addition of the General Studies/Mata Pelajaran Umum, comprising of:

#### 10 Core Units 125 credit points

A set of compulsory units you MUST complete as part of your Course.

#### 17 Robotics and Mechatronics Major Units 212.5 credit points

A set of compulsory units you MUST complete as part of your Course.

#### 5 Recommended Elective Units 62.5 credit points

A combination of elective units or a Minor package.

#### 1 Industry Placement Unit 0 credit point

A compulsory, not-for-credit unit.

#### General Studies/Mata Pelajaran Umum 0 credit points

- \* Compulsory units to complete as a pre-requisite to graduate (see statement below)
- \* Advisable to enrol in Year One
- \* Email [tu@swinburne.edu.my](mailto:tu@swinburne.edu.my) for queries

All commencing students of Master, Degree, Diploma and Foundation programs will be automatically registered for the **Academic Integrity Training Module** in the first semester (Note: Students articulating from Foundation Studies are expected to undertake this unit as a refresher). There are 4 topics in this online module that are recommended for completion during Week 1-4 of your commencing study period. At the end of this module, students are required to complete a quiz comprised of 10 questions and achieve a score of at least 90%.

Ministry of Education requires that all NEW Cohorts pursuing Degree program (International and Malaysian) students must take the MPU units as a prerequisite for the award of their degree.

- Malaysian students: Must take and pass the units as a prerequisite for the award of their degree.
- International students: Must take and pass the units as a prerequisite for the award of their degree

## Elective Units Listing

Elective Units			
Unit Code	Unit Name	Pre-requisites	Offered in
EEE40002	Integrated Circuit Design	EEE20001	Semester 1 only
EEE30001	Analogue Electronics 2	EEE20004 / EEE20006	Semester 1 only
EEE20005	Electrical Machines	MTH10012 & EEE20006	Semester 2 only
EEE40005	Power Electronics	EEE20005	Semester 2 only
COS20019	Cloud Computing Architecture	50 CPs	Semester 2 only
COS10082	Applied Analytics in Business	Nil	Semester 2 only
COS10022	Data Science Principles	Nil	Semester 1 & 2
COS10026	Web Technology Project	Nil	Semester 1 & 2
COS10005	Web Development	Nil	Semester 1 & 2
COS40007	Artificial Intelligence for Engineering	100CPs & COS10009	Semester 1 only
MEE20003	Fluid Mechanics 1: Forces and Energy	MTH10013 & MTH10012	Semester 2 only
MEE20001	Thermodynamics 1	PHY10001	Semester 1 only
MEE30004	Solid Mechanics	MEE20004	Semester 2 only
MEE20005	Materials Processing and Machining	ENG10002	Semester 2 only
MEE40050	Introduction to Building Services Engineering	200CPs	Semester 2 only

### Notes:

- You may choose other approved elective units from the elective list above.
- Enrolment in the selected elective units is subject to:
  - No timetable clash between selected elective units and core / major units
  - Seat availability in the selected electives
  - Selected elective units are offered in the current semester