

Bachelor of Engineering (Honours) (Robotics and Mechatronics)

BH-ERM

Semester 1 | 2024

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 <i>(Malaysian and International Students)</i> | Nil |
| Winter Term June 2024 | | |
| MPU3212 | Bahasa Kebangsaan A <i>(Malaysian students who do not have SPM Bahasa Melayu credit)</i> | 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 <i>(Malaysian and International Students)</i> | Nil |

Year Two

| Semester 3 Feb/Mar 2025 | | |
|----------------------------|--|--------------------------------|
| Unit Code | Unit Name | Pre-requisites |
| MEE20004 | Structural Mechanics | ENG10003 |
| EEE20006 [@] | Circuits and Electronics 1 | MTH10013 & PHY10004/COS10025 |
| MEE20007 [@] | Design and Product Visualisation Project | ENG10001 |
| ENG20009 | Engineering Technology Inquiry Project | Nil |
| MPU3183 | Penghayatan Etika dan Peradaban <i>(Malaysian Students Only)</i> | Nil |
| MPU3143 | Malay Language Communication 2 <i>(International Students Only)</i> | Nil |
| Semester 4 Aug/Sept 2025 | | |
| COS20007 | 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 [@] | Control and Automation | PHY10004/EEE20006 & MTH20014/MTH20017 |
| TNE20003 | Internet and Cybersecurity for Engineering Applications | Nil |
| MEE30005 [@] | Machine Design Project | MEE20004 |
| ENG30002 [@] | Engineering Technology Sustainability Project | Nil |
| EAT20008 | Professional Experience in Engineering* | Introductory Seminar |
| Semester 6 Aug/Sept 2026 | | |
| RME30003 [@] | Robotic Control | RME30002 |
| RME40002 [@] | Mechatronics Systems Design | EEE20003/ENG20010 |
| ENG40011 [@] | Engineering Technology Innovation Project | Nil |
| COS30019& | Introduction to Artificial Intelligence | COS20007 / COS30008 |

Year Four

| Semester 7 Feb/Mar 2027 | | |
|----------------------------|--|---------------------------------------|
| Unit Code | Unit Name | Pre-requisites |
| ENG40007 [@] | Engineering Technology Project A | 250 CPs |
| RME40003 [@] | Robot Systems Design | 250 CPs |
| COS40007 ^{&} | Artificial Intelligence for Engineering | 100CPs & COS10009 |
| COS20019 ^{&} | Cloud Computing Architecture | 50CPs |
| Semester 8 Aug/Sept 2027 | | |
| ENG40008 [@] | Engineering Technology Project B | ENG40007 |
| EEE40017 [@] | Machine Vision | EEE20006 & MTH20014/MTH20010/MTH20017 |
| TNE30024 | Deploying Secure Engineering Applications Online | TNE20003 |
| COS10022 ^{&} | Data Science Principle | Nil |

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
- & Recommended Elective units [Industry 4.0]. Please approach your Discipline Leader if you wish to take other elective 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.

18 Robotics and Mechatronics

Major Units

225 credit points

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

4 Recommended Elective Units

50 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 itu@swinburne.edu.my for queries

All commencing students of Master, Degree, Diploma and Foundation courses 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 course (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