COURSE PLANNER

SWINBURNE UNIVERSITY OF TECHNOLOGY

Bachelor of Engineering (Honours) (Robotics and Mechatronics) / Bachelor of Computer Science (All Majors)
BB-ERMSCS2
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

Unit Code	Unit Name	Pre-requisites
**Semester 1	Feb/Mar 2025**		
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 2025**		
MPU3212	Bahasa Kebangsaan A (Malaysian students who do not have SPM Bahasa Melayu credit)	Nil
**Semester 2	Aug/Sept 2025**		
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

Unit Code	Unit Name	Pre-requisites
**Semester 3	Feb/Mar 2026**		
TNE10006	Network and Switching	Nil
COS10026	Web Technology Project	Nil
MEE20004	Structural Mechanics	ENG10003
EEE20006@	Circuits and Electronics 1	MTH10013 & PHY10004/COS10025
MPU3183	Penghayatan Etika dan Peradaban *(Malaysian Students Only)*	Nil
MPU3143	Malay Language Communication 2 *(International Students Only)*	Nil
**Semester 4	Aug/Sept 2026**		
COS10004	Computer Systems	COS10009
COS20007@	Object Oriented Programming	COS10009/SWE20004
MTH20017	Mathematical Methods and Statistics for Engineering	MTH10012 & MTH10013
ENG20010	Engineering Technology Design Project	Nil

Year Three

Unit Code	Unit Name	Pre-requisites
**Semester 5	Feb/Mar 2027**		
MEE20007@	Design and Product Visualisation Project	ENG10001
RME30002@	Control and Automation	EEE20002/EEE20006 & MTH10012
TNE20003	Internet & Cybersecurity for Engineering Applications	Nil
ENG20009	Engineering Technology Inquiry Project	Nil
EAT20008	Professional Experience in Engineering#	Introductory Seminar
**Semester 6	Aug/Sept 2027**		
RME30003@	Robotic Control	RME30002
TNE30024	Deploying Secure Engineering Applications Online	TNE20003
MEE20006	Engineering Dynamics	MTH10013 & MTH10012 & PHY10001
ENG40011@	Engineering Technology Innovation Project	Nil

Year Four

Unit Code	Unit Name	Pre-requisites
**Semester 7	Feb/Mar 2028**		
MEE30005	Machine Design Project	MEE20004
ENG30002@	Engineering Technology Sustainability Project	Nil
	Computer Science Major Unit	
	Computer Science Major Unit	
**Semester 8	Aug/Sept 2028**		
RME40002@	Mechatronics Systems Design	EEE20003/ENG20009
EEE40017@	Machine Vision	EEE20006 & MTH20014/MTH20010/MTH20017
	Computer Science Major Unit	
	Computer Science Major Unit	

Year Five

Unit Code	Unit Name	Pre-requisites
**Semester 9	Feb/Mar 2029**		
EAT40005@	Engineering Technology Project A (ENG/CS)	250 CPs
RME40003@	Robot Systems Design	250 CPs
	Computer Science Major Unit	
	Computer Science Major Unit	
**Semester 10	Aug/Sept 2029**		
EAT40006@	Engineering Technology Project B (ENG/CS)	EAT40005
	Computer Science Major Unit	
	Computer Science Major Unit	
	Computer Science Major 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 | BEng(Hons)(R&M)

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 41 units (500 credit points) in addition of the General Studies/Mata Pelajaran Umum, comprising of:

13 Core Units
162.5 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.

9 Computer Science Major Units
112.5 credit points
A structured set of 8 units (100 credit points) in a field of study specific to your Course.

1 Recommended Elective Unit
12.5 credit points
elective unit

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 ltu@swinburne.edu.my for queries

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

COURSE PLANNER

Bachelor of Computer Science Major units

Software Development Major

Unit Code	Unit Name	Pre-requisites	Offered in
COS20019	Cloud Computing Architecture	50 CPs	Semester 1 & 2
COS20031	Database Design Project	COS10009/COS10026	Semester 1 & 2
COS30049	Computing Technology Innovation Project	COS10009 OR COS10026	Semester 1 & 2
SWE30003	Software Architecture and Design	COS20007 & 150 CPs	Semester 1 only
COS30020	Advanced Web Development	COS10009 & COS10026/COS10011	Semester 2 only
COS30008	Data Structures and Patterns	COS20007	Semester 2 only
COS30043	Interface Design and Development	COS10011/COS10026/ENG20009 & COS20007/SWE20004	Semester 1 only
COS40003	Concurrent Programming	COS30008/COS20007/SWE20004	Semester 2 only
SWE30009	Software Testing and Reliability	COS20007/SWE20004	Semester 2 only

Artificial Intelligence Major

Unit Code	Unit Name	Pre-requisites	Offered in
COS20019	Cloud Computing Architecture	50 CPs	Semester 1 & 2
COS20031	Database Design Project	COS10009/COS10026	Semester 1 & 2
COS30049	Computing Technology Innovation Project	COS10009 OR COS10026	Semester 1 & 2
SWE30003	Software Architecture and Design	COS20007 & 150 CPs	Semester 1 only
COS30020	Advanced Web Development	COS10009 & COS10026/COS10011	Semester 2 only
COS30018	Intelligent Systems	COS20007/SWE20004	Semester 1 only
COS30019	Introduction to Artificial Intelligence	COS20007/COS30008	Semester 1 & 2
COS30082	Applied Machine Learning	COS30018/COS30019	Semester 2 only
COS40007	Artificial Intelligence for Engineering	100CPs & COS10009	Semester 1 only

Internet of Things Major

Unit Code	Unit Name	Pre-requisites	Offered in
COS20019	Cloud Computing Architecture	50 CPs	Semester 1 & 2
COS20031	Database Design Project	COS10009/COS10026	Semester 1 & 2
COS30049	Computing Technology Innovation Project	COS10009 OR COS10026	Semester 1 & 2
SWE30003	Software Architecture and Design	COS20007 & 150 CPs	Semester 1 only
COS30020	Advanced Web Development	COS10009 & COS10026/COS10011	Semester 2 only
COS30017	Software Development for Mobile Devices	COS20007	Semester 2 only
COS30015	IT Security	COS10009/SWE20004 & COS10011/COS10026 & TNE10005/TNE10006	Semester 2 only
SWE30011	IoT Programming	COS20007 & COS10011/COS10026	Semester 1 only
TNE10005	Network Administration	Nil	Semester 1 only

Data Science Major

Unit Code	Unit Name	Pre-requisites	Offered in
COS20019	Cloud Computing Architecture	50 CPs	Semester 1 & 2
COS20031	Database Design Project	COS10009/COS10026	Semester 1 & 2
COS30049	Computing Technology Innovation Project	COS10009 OR COS10026	Semester 1 & 2
SWE30003	Software Architecture and Design	COS20007 & 150 CPs	Semester 1 only
COS30020	Advanced Web Development	COS10009 & COS10026/COS10011	Semester 2 only
COS10022	Data Science Principles	Nil	Semester 1 & 2
COS20028	Big Data Architecture and Application	COS10022 & COS20007	Semester 2 only
COS30045	Data Visualisation	COS10009	Semester 2 only
SWE40006	Software Deployment and Evolution	SWE20001/INF30029/SWE30010/SWE30003/ COS20031/ICT20025/ENG20010	Semester 1 only

Cybersecurity Major

Unit Code	Unit Name	Pre-requisites	Offered in
COS20019	Cloud Computing Architecture	50 CPs	Semester 1 & 2
COS20031	Database Design Project	COS10009/COS10026	Semester 1 & 2
COS30049	Computing Technology Innovation Project	COS10009 OR COS10026	Semester 1 & 2
SWE30003	Software Architecture and Design	COS20007 & 150 CPs	Semester 1 only
COS30020	Advanced Web Development	COS10009 & COS10026/COS10011	Semester 2 only
COS20030	Malware Analysis	TNE10005/TNE10006	Semester 2 only
COS30015	IT Security	COS10009/SWE20004 & COS10011/COS10026 & TNE10005/TNE10006	Semester 1 & 2
TNE20002	Network Routing Principles	TNE10006	Semester 1 only
TNE30009	Network Security and Resilience	TNE10006/COS20012	Semester 2 only