COURSE PLANNER

Bachelor of Engineering (Honours) (Mechanical) / Bachelor of Computer Science (All Majors)

BB-EMECS2

Semester 1 | 2026

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 2026		
ENG10001	Humanitarian Engineering Design Project	Nil
COS10009	Introduction to Programming	Nil
MTH10013	Linear Algebra and Applications	Nil
PHY10001	Energy and Motion	Nil
MPU3272	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 **2026**		
ENG10006	Engineering Technology with Indigenous Context	Nil
ENG10002	Engineering Materials	Nil
ENG10003	Engineering Mechanics	Nil
MTH10012	Calculus and Applications	Nil
MPU3192	Philosophy and Current Issues *(Malaysian and International Students)*	Nil

Year Two

Unit Code	Unit Name	Pre-requisites
Semester 3 | Feb/Mar **2027**		
MEE20001	Thermodynamics	PHY10001
MEE20007	Design and Product Visualisation Project	ENG10001
MEE20004	Structural Mechanics	ENG10002/ENG10003
TNE10006	Networks and Switching	Nil
MPU3182	Penghayatan Etika dan Peradaban *(Malaysian Students Only)*	Nil
MPU3142	Malay Language Communication 2 *(International Students Only)*	Nil
Semester 4 | Aug/Sept 2027		
MEE20003	Fluid Mechanics 1: Forces and Energy	MTH10013 & MTH10012
COS10004	Computer Systems	COS10009
COS10026	Web Technology Project	Nil
COS20007	Object Oriented Programming	COS10009/SWE20004
MPU3412	Service Learning *(Malaysian and International Students)*	Nil

Year Three

Unit Code	Unit Name	Pre-requisites
Semester 5 | Feb/Mar **2028**		
MEE30007	Vibration, Data Analysis and Data Decomposition	MTH10012 & MTH10013 & 150 credit points
MEE30005 *	Machine Design Project	MEE20004
MTH20010	Statistics and Computation for Engineering	MTH10013 & MTH10012
	Computer Science Major Unit	
EAT20008 #	Professional Experience in Engineering	Introductory Seminar
Semester 6 | Aug/Sept 2028		
MEE20005	Materials Processing and Machining	ENG10002
MEE20006	Engineering Dynamics	MTH10013 & MTH10012 & PHY10001
MEE30004 *	Solid Mechanics	MEE20004
MME30002 *	Engineering Management Project	100 credit points

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:

14 Core Units
175 credit points
A set of compulsory units you MUST complete as part of your Course.

17 Mechanical Major Units
212.5 credit points
A set of compulsory units you MUST complete as part of your Course.

8 Computer Science Major Units
100 credit points
A set of compulsory units you MUST complete as part of your Course.

1 Recommended Elective Unit
12.5 credit points
MTH20010 Statistics and Computation for Engineering

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 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%.

Year Four

Semester 7 | Feb/Mar **2029**		
Unit Code	Unit Name	Pre-requisites
MEE30001 *	Manufacturing Engineering	MEE20005
MEE30002 *	Control Engineering	Co-requisite: MEE20008/ MEE30007 Or Pre-requisites: MTH20011
MEE40003 *	Machine Dynamics	MEE20006
	Computer Science Major Unit	
Semester 8 | Aug/Sept 2029		
MEE40001 *	Heat Transfer	MEE20001 & MTH20010
MEE40004 *	Fluid Mechanics 2: Machine, Supersonics and Modelling	MEE20003
MEE40010 *	Integrated Engineering Design Project	MEE30005
MEE40011 *	Renewable Energy and Hydrogen Technologies	Nil

Year Five

Semester 9 | Feb/Mar **2030**		
Unit Code	Unit Name	Pre-requisites
EAT40005 *	Engineering Technology Project A (ENG/CS)	250 credit points
	Computer Science Major Unit	
	Computer Science Major Unit	
	Computer Science Major Unit	
Semester 10 | Aug/Sept 2030		
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.

SWINBURNE UNIVERSITY OF TECHNOLOGY

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
COS30008	Data Structures and Patterns	COS20007/COS30016/SWE20004	Semester 2 only
COS30043	Interface Design and Development	COS10011/COS10026/ENG20009 & COS20007/SWE20004	Semester 1 only
COS40003	Concurrent Programming	COS30008/COS20007/SWE20004/COS30043	Semester 2 only
SWE30009	Software Testing and Reliability	COS20007/SWE20004	Semester 1 only

Artificial Intelligence Major			
Unit Code	Unit Name	Pre-requisites	
COS20019	Cloud Computing Architecture	50 CPs	Semester 1 & 2
COS20031	Database Design Project	COS10009 or 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
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	
COS20019	Cloud Computing Architecture	50 CPs	Semester 1 & 2
COS20031	Database Design Project	COS10009 or 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
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	
COS20019	Cloud Computing Architecture	50 CPs	Semester 1 & 2
COS20031	Database Design Project	COS10009 or 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
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	
COS20019	Cloud Computing Architecture	50 CPs	Semester 1 & 2
COS20031	Database Design Project	COS10009 or 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
COS20030	Malware Analysis	TNE10005/TNE10006	Semester 2 only
COS30015	IT Security	COS10009/SWE20004 & COS10011/COS10026 & TNE10005/TNE10006	Semester 1 & 2
TNE20003	Internet and Cybersecurity for Engineering Applications	COS10009	Semester 1 only
TNE30009	Network Security and Resilience	TNE10006/COS20012	Semester 2 only