

# COURSE PLANNER

## Bachelor of Engineering (Honours) (Electrical and Electronic) / Bachelor of Computer Science

BB-EECS1

Intake: Aug/Sept 2023

### 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   Aug/Sept 2023		
Unit Code	Unit Name	Pre-requisites
ENG10001	Humanitarian Engineering Design Project	Nil
COS10009	Introduction to Programming	Nil
MTH10012	Calculus and Applications	Nil
PHY10001	Energy and Motion	Nil
MPU3193	Philosophy and Current Issues <i>(Malaysian and International Students)</i>	Nil
Semester 2   Feb/Mar 2024		
COS10025	Technology in an Indigenous Context Project	Nil
MTH10013	Linear Algebra and Applications	Nil
ENG10002	Engineering Materials	Nil
ENG10003	Engineering Mechanics	Nil
MPU3183	Penghayatan Etika dan Peradaban <i>(Malaysian Students Only)</i>	Nil
MPU3143	Malay Language Communication 2 <i>(International Students Only)</i>	Nil
Winter Term   June/July 2024		
MPU3212	Bahasa Kebangsaan A <i>(Malaysian students who do not have SPM Bahasa Melayu credit)</i>	Nil

### Year Two

Semester 3   Aug/Sept 2024		
Unit Code	Unit Name	Pre-requisites
COS10004	Computer Systems	COS10009
ENG20010	Engineering Technology Design Project	Nil
MTH20017	Mathematical Methods and Statistics for Engineering <i>Computer Science Major Unit</i>	MTH10012 & MTH10013
Semester 4   Feb/Mar 2025		
ENG20009	Engineering Technology Inquiry Project	Nil
EEE20006	Circuits & Electronics 1	MTH10013 & COS10025
TNE20003	Internet and Cybersecurity for Engineering Applications	Nil
COS40007	Artificial Intelligence for Engineering	100 CPs & COS10009

### Year Three

Semester 5   Aug/Sept 2025		
Unit Code	Unit Name	Pre-requisites
ENG40011	Engineering Technology Innovation Project <sup>®</sup>	Nil
EEE20005	Electrical Machines	MTH10012 & EEE20006
EEE20013	Power Protection <sup>®</sup>	EEE20006
EEE40016	Design of Smart Power Grids <sup>®</sup>	200 CPs
EAT20008	Professional Experience in Engineering <sup>#</sup>	Introductory Seminar
Semester 6   Feb/Mar 2026		
ENG30002	Engineering Technology Sustainability Project <sup>®</sup>	Nil
EEE30002	Electrical Power Systems <sup>®</sup>	EEE20005
RME30002	Control and Automation <sup>®</sup>	PHY10004/EEE20006 & MTH20014/MTH20017
<i>Computer Science Major Unit</i>		

### Year Four

Semester 7   Aug/Sept 2026		
Unit Code	Unit Name	Pre-requisites
COS20007	Object Oriented Programming	COS10009/SWE20004
EEE40005	Power Electronics <sup>®</sup>	EEE20005
EEE40007	Power System Operation and Control <sup>®</sup>	EEE30002
TNE30024	Deploying Secure Engineering Applications Online	TNE20003
Semester 8   Feb/Mar 2027		
COS10026	Computing Technology Inquiry Project	Nil
TNE10006	Networks and Switching	Nil
EEE40015	Renewable Energy <sup>®</sup>	EEE30002
EEE30006	Hydrogen and Energy Storage <sup>®</sup>	EEE30002 & EEE20013/EEE20004

### Year Five

Semester 9   Aug/Sept 2027		
Unit Code	Unit Name	Pre-requisites
EAT40005	Engineering Technology Project A (ENG/CS) <sup>®</sup> <i>Computer Science Major Unit</i> <i>Computer Science Major Unit</i> <i>Computer Science Major Unit</i>	250 CPs
Semester 10   Feb/Mar 2028		
EAT40006	Engineering Technology Project B (ENG/CS) <sup>®</sup> <i>Computer Science Major Unit</i> <i>Computer Science Major Unit</i> <i>Computer Science Major Unit</i>	EAT40005

### 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

To qualify for the award of this course, students must complete 33 units (400 credit points) comprising of:

**14 Core Units**  
175 credit points

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

**18 Electrical and Electronic Major Units**  
225 credit points

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

**8 Computer Science Major Units**  
100 credit points

A combination of elective units

**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](mailto:ltu@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

# 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 only
COS20031	Computing Technology Design Project	Nil	Semester 1 & 2
COS30049	Computing Technology Innovation Project	Nil	Semester 1 & 2
SWE30003	Software Architecture and Design	COS20007 & 150 CPs	Semester 1 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 only
COS20031	Computing Technology Design Project	Nil	Semester 1 & 2
COS30049	Computing Technology Innovation Project	Nil	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
COS30002	Artificial Intelligence for Games	COS20007/SWE20004	
Internet of Things Major			
Unit Code	Unit Name	Pre-requisites	Offered in
COS20019	Cloud Computing Architecture	50 CPs	Semester 1 only
COS20031	Computing Technology Design Project	Nil	Semester 1 & 2
COS30049	Computing Technology Innovation Project	Nil	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	Offered in
COS20019	Cloud Computing Architecture	50 CPs	Semester 1 only
COS20031	Computing Technology Design Project	Nil	Semester 1 & 2
COS30049	Computing Technology Innovation Project	Nil	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 2 only
Cybersecurity Major			
Unit Code	Unit Name	Pre-requisites	Offered in
COS20019	Cloud Computing Architecture	50 CPs	Semester 1 only
COS20031	Computing Technology Design Project	Nil	Semester 1 & 2
COS30049	Computing Technology Innovation Project	Nil	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 2 only
TNE20002	Network Routing Principles	TNE10006	Semester 1 only
TNE30009	Network Security and Resilience	TNE10006/COS20012	Semester 2 only