BE (Hons) Electrical and Electronic Engineering (AK3751)

Study Plan 2025 for students who commenced their studies before 2024

Notes:

- Once you have made your selections, go to My AUT to complete your enrolment.
- S1 = Semester 1, S2 = Semester 2, SS = Summer School
- Prerequisite courses are shown in brackets after each course. **Please ensure you have completed all necessary prerequisite courses before you enrol in a course.**
- For enrolment queries or issues, please email your Academic Administrator (e: *engineer@aut.ac.nz).*
- **Course level** is the first digit of the numeric part of the alphanumerical code (E.g., ENGE500 is a level 5 course).

YEAR 1		
ENGE500	Introduction to Sustainable Engineering Design	S1
ENGE501	Engineering Mathematics I	S1
ENME502	Engineering Materials I	S2
ENSE504	Introduction to Computing	*Discontinued* Enrol in **COMP500 Programming Concepts and Techniques** (S1, S2, SS) instead if repeat is required
ENEL515	Electrical Principles A	*Discontinued* ▪ If failed ENEL515 or ENEL516, take **ENGE504 Electrical Engineering Fundamentals** (S1 or S2) ▪ If failed both ENEL515 and ENEL516, take ENGE504 (S1) and **ENEL500 Analogue Devices and Systems** (S2)
ENEL516	Electrical Principles B	
ENME510	Mechanical Principles A	*Discontinued* ▪ If failed ENME510 or ENME511, take **ENGE503 Engineering Mechanics** (S1) ▪ If failed both ENME510 and ENME511, take ENGE503 (S1) and **ENME500 Introduction to Thermofluids and Energy** (S2)
ENME511	Mechanical Principles B	

YEAR 2		
ENEL600	Electronics (ENEL515 & ENEL516)	*Discontinued* ▪ If failed ENEM600, take **ENEL606 Analog and Digital Systems** (S2)
ENEL608	Introduction to Microcontrollers (ENSE504)	S1
ENEL704	Circuit Theory [(ENEL515, ENGE501) & co-requisite: ENGE601]	*Discontinued* ▪ If failed ENEL704, take **ENEL619 Signals, Circuits and Systems** (S1) ▪ If failed both ENEL601 and ENEL704, take **ENEL619 Signals, Circuits and Systems** (S1) and **ENEL606 Analog and Digital Systems** (S2)
ENGE601	Engineering Mathematics II (ENGE501)	S1
ENEL601	Signals and Systems (ENGE601)	*Discontinued* ▪ If failed ENEL601, take **ENEL619 Signals, Circuits and Systems** (S1) ▪ If failed both ENEL601 and ENEL704, take **ENEL619 Signals, Circuits and Systems** (S1) **and ENEL606 Analog and Digital Systems** (S2)
ENEL602	Project [ENEL515, ENEL516, ENEL600, ENEL608]	S2
ENGE600	Engineering Management I	S2
ENGE702	Engineering Mathematics III (ENGE601)	S2

YEAR 3	*Students must have completed all Year 1 courses*				
ENEL712	Embedded System Design (ENEL608, ENEL600)	S1	ENEL702	Instrumentation and Control Systems (ENEL601)	S2
ENEL701	Power Electronic Systems (ENEL600)	S1	ENEL703	Power Systems Engineering (ENEL515, ENEL516)	S2
ENEL705	Fields and Waves (ENGE601)	S1	ENEL709	Design Project (ENEL602)	S2
ENGE800	Engineering Numerical Techniques and Statistical Analysis (ENGE702)	S1	ENEL700	Communication Engineering (ENEL600, ENEL601)	S2

YEAR 4 ***Students must have completed all Year 1 and Year 2 courses***					
ENEL891	Industrial Project (Electrical) Part A	S1 or S2	ENEL892	Industrial Project (Electrical) Part B	S1 or S2
General Elective	General Elective (GE)*	S1 or S2	ENGE701	Engineering Management II (ENGE600)	S2
Level 8	Elective	S1	Level 8	Elective	
Level 8	Elective	S1	Level 8	Elective	S2

Level 8 Electives					
Select two electives per semester (please ensure you have done the prerequisites indicated in brackets prior to selecting the courses below):					
ENEL800	Wireless Systems (ENEL700)	S1	ENEL810	Advanced Control (ENEL809)	S2
ENEL804	Sustainable Energy Systems	S1	ENEL813	Power Systems Quality Management (ENEL701)	S2
ENEL809	Digital Control (ENEL702)	S1	ENSE810	Embedded Software Engineering (ENEL712)	S2
ENSE807	Digital Signal Processing (ENEL712 or ENSE601)	S1	ENEL801**	Electrical Machines and Drives (ENEL701-704)	
ENEL802**	Network Engineering (ENEL700)		ENEL803**	Electrical Design and Protection (ENEL703)	
ENEL808**	Computer Vision (ENEL712)		ENEL811**	Optimal Control (ENEL809)	
ENEL812**	Electrical Power Systems: Integrated Analysis (ENEL703)		ENEL816**	Cyber Physical Systems and Intelligence	
ENGE810**	Specialist Readings B		ENGE812**	Specialist Readings D	
ENSE808**	Digital Systems Design (ENEL712)		ENSE809**	Real Time Systems (ENEL712)	
ENSE814**	Wireless Sensor-Actuator Networks				

*General Elective (any level 5 course or above within the university). Students can choose a General Elective from this link and get approval from the respective school the course belongs to, before informing us to enrol - https://www.aut.ac.nz/study/study-options/Additional-majors-and-minors-for-bachelors-degrees

** Courses not offered in 2025

Plus: completion of **ENGE888 Engineering Work Experience** (enrol in either S1 or S2)

- No fees or credits are attached to this course
- Must be completed in order to graduate
- Send the approval form to the Work Experience Coordinator (hamid.gholamhosseini@aut.ac.nz) for your work to be considered/approved prior to commencement of work
- Complete 800 hours of work
- Submit a 4500-5000 word report through Canvas (email engineer@aut.ac.nz when you are ready to submit the report so you can be enrolled or if you have any questions)