

H1287 Bachelor of Engineering Honours (Industrial Control and Automation Engineering)

Academic Chair: For 1st year & Advanced Standing enquiries: [Sheikh Izzal Azid](#)
For 2nd, 3rd and 4th year enquiries: [Amir Yazdani](#)

Start Date: Semester 2 2026

Major in Industrial Control and Automation Engineering, Minor in Electrical and Renewable Energy Engineering

Year	Semester 1 Units	CP	Semester 2 Units	CP
	Year 1 – 2026			MAS164 Fundamentals of Mathematics ¹
			PEN120 General Physics ²	3
			ENG101 Engineering Fundamentals	3
			ENG102 Engineering Design for Sustainability	3
			Total	12
Year 2 – 2027	Semester 1 Units	CP	Semester 2 Units	CP
	MAS182 Introductory Calculus with Applications	3	MAS161 Calculus and Matrix Algebra	3
	ENG109 Engineering Computing Systems	3	ENG103 Principles of Engineering	3
	ENG208 Fundamentals of DC Circuits	3	ENG209 Fundamentals of AC Circuits	3
	MAS162 Discrete Mathematics and Logic ³ (Recommended Elective)	3	ENG252 Embedded Systems	3
	Total	12	Total	12
Year 3 – 2028	Semester 1 Units	CP	Semester 2 Units	CP
	MAS220 Mathematical Methods and Multivariable Calculus	3	ENG216 Dynamic Systems and Control	3
	ENG215 Systems Engineering	3	ENG231 Renewable Energy Systems ⁴ (or Specified Elective)	3
	ENG251 PLC Systems	3	ENG381 Electrical Power Systems ⁴ (or Specified Elective)	3
	ENG344 Electromechanical Energy Conversion ⁴ (or Specified Elective)	3	ENG382 Power Electronics ⁴ (or Specified Elective)	3
	Total	12	Total	12
Year 4 – 2029	Semester 1 Units	CP	Semester 2 Units	CP
	ENG391 Process Control	3	ENG470 Engineering Honours Thesis (H option) ⁵	6
	ENG392 SCADA and Instrumentation Systems	3	ENG100 Engineering Professional Practice (H)	0
	ENG551 Microcontrollers and Data Communication	3	ENG336 Engineering Finance, Management and Law	3
	Discovery Study Unit (see here for options)	3	ICT515 Foundations of Data Science	3
	Total	12	Total	12
Year 5 – 2030	Semester 1 Units	CP	Semester 2 Units	CP
	ENG470 Engineering Honours Thesis (H option)	6		
	ENG100 Engineering Professional Practice (H)	0		
	ENG553 Industrial Process Control	3		
	ENG613 Applied Robotics (Robotic Manipulation)	3		
	Total	12	Total	

TOTAL CREDIT POINTS 96

¹ Check the Enrolment Rules for MAS164 in the [Handbook](#). If you are ineligible to enrol, you should consult the Academic Chair.

² Check the Enrolment Rules for PEN120 in the [Handbook](#). If you are ineligible to enrol, you should consult the Academic Chair.

³ Recommended specified elective.

⁴ The units ENG231, ENG344, ENG381 and ENG382 form the Minor in Electrical and Renewable Energy Engineering, which is recommended for your Major. If you do not wish to complete this Minor, select four (4) Specified Electives instead.

⁵ Note that enrolling in ENG470 requires that the full unit fee (12 CP) be paid at the beginning of the teaching period.

Specified Electives	
CHE140 Fundamentals of Chemistry (S1, S2) PEN152 Principles of Physics (S1, S2) MAS162 Discrete Mathematics and Logic (S1, S2) ENG341 Water Conservation & Auditing (S1) ENG344 Electromechanical Energy Conversion (S1)	ENG221 Pollution & Its Control (S2) ENG231 Renewable Energy Systems (S2) ENG300 Environmental Technology for Sustainability(S2) ENG381 Electrical Power Systems (S2) ENG382 Power Electronics (S2) BUS368 Cultures of Innovation (S2)
Notes: <ol style="list-style-type: none">1. A maximum of 30 CP of 100-level units may be completed as part of the course.2. Review the elective units corequisites and prerequisites carefully before making any selection.3. Any other elective units are subject to approval from the Academic Chair.	
ENG100 Engineering Professional Practice (0 CP) Bachelor of Engineering Honours students should complete 450 hours of approved work experience to complete the requirements of the course.	

Please note: This course plan is a sample only and must be read in conjunction with the full course structure, unit prerequisites and enrolment options as outlined in the [Handbook](#). Students should note that due to unit prerequisites, commencing study in Semester 2 may extend the duration of the course. This information is correct as at 01/05/26.