

Bachelor of Engineering Honours H1287 (Electrical and Renewable Energy Engineering)

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Start Semester
Date: 1 2025

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

Year 1 – 2025	Semester 1 Units	CP	Semester 2 Units	CP
	MAS164 Fundamentals of Mathematics ¹	3	MAS182 Introductory Calculus with Applications	3
	ENG101 Engineering Fundamentals	3	ENG102 Engineering Design for Sustainability	3
	ENG103 Principles of Engineering	3	PEN120 General Physics ²	3
	ENG109 Engineering Computing Systems	3	MAS162 Discrete Mathematics and Logic ³ (or Specified Elective)	3
		12	Total	12
Year 2 – 2026	Semester 1 Units	CP	Semester 2 Units	CP
	MAS161 Calculus and Matrix Algebra	3	ENG216 Dynamic Systems and Control	3
	ENG215 Systems Engineering	3	ENG336 Engineering Finance, Management and Law	3
	ENG208 Fundamentals of DC Circuits	3	ENG209 Fundamentals of AC Circuits	3
	ENG251 PLC Systems ⁴ (or Specified Elective)	3	ENG252 Embedded Systems ⁴ (or Specified Elective)	3
	Total	12	Total	12
Year 3 – 2027	Semester 1 Units	CP	Semester 2 Units	CP
	ENG344 Electromechanical Energy Conversion	3	ENG382 Power Electronics	3
	ENG392 SCADA and Instrumentation Systems ⁴ (or Specified Elective)	3	ENG381 Electrical Power Systems	3
	MAS220 Mathematical Methods and Multivariable Calculus	3	ENG231 Renewable Energy Systems	3
	ENG391 Process Control ⁴ (or Specified Elective)	3	Specified Elective	3
	Total	12	Total	12
Year 4 – 2028	Semester 1 Units	CP	Semester 2 Units	CP
	ENG537 Power System Modelling and Analysis	3	ENG534 Power Systems Operation, Control and Protection	3
	ENG535 Power Electronic Converters and Applications	3	ENG470 Engineering Honours Thesis (Y option) ⁵	9
	ENG532 Renewable Energy Resources and Technologies OR ENG631 Distributed Power System and Microgrid Planning and Reliability	3	ENG100 Engineering Professional Practice (Y option)	0
	ENG470 Engineering Honours Thesis (Y option) ⁵	3		
	ENG100 Engineering Professional Practice (Y option)	0		
	Total	12	Total	12

TOTAL CREDIT POINTS 96

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

² Students who have achieved a final scaled score of 60% or more in ATAR Physics or WACE Physics 3A/3B may not enrol in this unit and should consult their Academic Chair.

³ Recommended for students studying the Minor in Industrial Control and Automation Engineering.

⁴ The units ENG251, ENG252, ENG391 and ENG392 form the Minor in Industrial Control and Automation Engineering. If students do not wish to complete this minor, other specified electives can be chosen for all or some of these units (see below).

⁵ Students enrolling in ENG470 (Y option) need to pay the full unit fee (12 cpts) at the commencement of the teaching period.

Specified Electives
<p>100 level (a maximum of 30 cpts can be completed at 100 level as part of the course)</p> <p>SIK102 - Wandju Boodja (Welcome to Country) (S1, S2, SUM, W)</p> <p>CHE140 - Fundamentals of Chemistry (S1, S2)</p> <p>PEN152 - Principles of Physics (S1, S2)</p> <p>ICT158 - Introduction to Information Systems (S2)</p> <p>MAS162 – Discrete Mathematics and Logic (S1, S2)</p> <p>MAS183 - Statistical Data Analysis (S1, S2)</p> <p>200 level and above (students should carefully review the pre-requisites required for the below units):</p> <p>ENG221 - Pollution and Its Control (S2)</p> <p>ENG251 - PLC Systems (S1)</p> <p>ENG252 - Embedded Systems (S2)</p> <p>ENG300 - Environmental Technology for Sustainability (S2)</p> <p>ENG341 - Water Conservation and Auditing (S1)</p> <p>BUS368 – Cultures of Innovation (S2)</p> <p>ENG391 - Process Control (S1)</p> <p>ENG392 - SCADA and Instrumentation Systems (S1)</p> <p>PEN594 – Energy Auditing and Management (S1)</p> <p>(Any other elective units are subject to approval from the Academic Chair)</p>
<p>ENG100 Engineering Professional Practice (0 CP)</p> <p>Bachelor of Engineering Honours students should complete 450 hours of approved work experience to complete the requirements of the course.</p>

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 pre-requisites, commencing study in Semester 2 may extend the duration of the course. This information is correct as at 25/07/25.