

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

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Start Date: Semester 2 2024

Suggested Industrial Control & Automation Focus

Year	Semester 1 Units	CP	Semester 2 Units	CP
	Year 1 – 2024			MAS164 Fundamentals of Mathematics ¹
			ENG102 Engineering Design for Sustainability	3
			PEN120 General Physics ²	3
			ENG101 Engineering Fundamentals	3
			Total	12
Year 2 - 2025	Semester 1 Units	CP	Semester 2 Units	CP
	MAS182 Applied Mathematics	3	MAS161 Calculus and Matrix Algebra	3
	ENG103 Principles of Engineering	3	ENG214 Electrical and Electronic Circuits	3
	ENG109 Engineering Computing Systems	3	ENG252 Embedded Systems (Engineering Elective)	3
	Engineering Elective	3	BUS368 Cultures of Innovation	3
	Total	12	Total	12
Year 3 – 2026	Semester 1 Units	CP	Semester 2 Units	CP
	ENG344 Electromechanical Energy Conversion	3	ENG382 Power Electronics	3
	ENG215 Systems Engineering	3	ENG381 Electrical Power Systems	3
	Engineering Elective	3	ENG231 Renewable Energy Systems	3
	ENG251 PLC Systems (Engineering Elective)	3	ENG216 Dynamic Systems and Control	3
	Total	12	Total	12
Year 4 - 2027	Semester 1 Units	CP	Semester 2 Units	CP
	ENG537 Power System Modelling and Analysis	3	ENG534 Power Systems Operation, Control and Protection	3
	MAS220 Mathematical Methods	3	ENG336 Finance, Ethics and Law	3
	ENG391 Process Control (Engineering Elective)	3	ENG470 Engineering Thesis	6
	ENG392 SCADA and Instrumentation Systems (Engineering Elective)	3		
	Total	12	Total	12
Year 4 - 2028	Semester 1 Units	CP	Semester 2 Units	CP
	ENG535 Power Electronic Converters and Applications	3		
	ENG532 Renewable Energy Resources and Technologies			
	OR	3		
	ENG631 Distributed Power System and Microgrid Planning and Reliability			
	ENG470 Engineering Thesis	6		
ENG100 Engineering Professional Practice	0			
	Total	12	Total	

TOTAL CREDIT POINTS 96

¹ Students who have achieved a final scaled score of 55% or more in ATAR Mathematics Specialist, WACE Mathematics Specialist 3C/3D or TEE Calculus may not enrol in this unit and 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.

Elective Units

KAC102 - Wandju Boodja (Welcome to Country)
CHE140 - Fundamentals of Chemistry
ENV102 - Foundations of the Environment
ENG300 - Environmental Technology for Sustainability
ENG221 - Pollution & its Control
ENG341 - Water Conservation & Auditing
ENV243 - Water and Earth Science
ENV242 - Atmospheric and Climate Science
ENV303 - GIS for Environmental Management and Planning
ENV331 - Environmental Management
ENG391 - Process Control
ENG251 - PLC Systems
ENG392 - SCADA and Instrumentation Systems
ENG252 - Embedded Systems
PEN152 - Principles of Physics
ICT158 - Introduction to Information Systems
MAS183 - Statistical Data Analysis

Spine - 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 pre-requisites, commencing study in Semester 2 may extend the duration of the course. This information is correct as at 10/06/24.