

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

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Start Date: Semester 2 2024

Suggested Electives Focus: Electrical and Renewable Energy Engineering

Year	Semester 1 Units		Semester 2 Units	
		CP		CP
Year 1 – 2024			MAS164 Fundamentals of Mathematics <sup>1</sup>	3
			PEN120 General Physics <sup>2</sup>	3
			ENG101 Engineering Fundamentals	3
			ENG102 Engineering Design for Sustainability	3
			<b>Total</b>	<b>12</b>
Year 2 – 2025			MAS161 Calculus and Matrix Algebra	3
	MAS182 Introductory Calculus with Applications	3	ENG214 Electrical and Electronic Circuits	3
	ENG103 Principles of Engineering	3	ENG252 Embedded Systems	3
	ENG109 Engineering Computing Systems	3	BUS368 Cultures of Innovation	3
	Engineering Elective	3		
	<b>Total</b>	<b>12</b>	<b>Total</b>	<b>12</b>
Year 3 – 2026			ENG216 Dynamic Systems and Control	3
	MAS220 Mathematical Methods and Multivariable Calculus	3	ENG231 Renewable Energy Systems (Elective)	3
	ENG215 Systems Engineering	3	ENG381 Electrical Power Systems (Elective)	3
	ENG251 PLC Systems	3	ENG336 Engineering Finance, Management and Law	3
	ENG344 Electromechanical Energy Conversion (Elective)	3		
	<b>Total</b>	<b>12</b>	<b>Total</b>	<b>12</b>
Year 4 – 2027			ICT515 Foundations of Data Science	3
	ENG391 Process Control	3	ENG382 Power Electronics (Elective)	3
	ENG392 SCADA and Instrumentation Systems	3	ENG470 Engineering Honours Thesis (H option)	6
	ENG551 Microcontrollers and Data Communication	3		
	Engineering Elective	3		
	<b>Total</b>	<b>12</b>	<b>Total</b>	<b>12</b>
Year 5 – 2028				
	ENG552 Industrial Control Systems	3		
	ENG553 Industrial Process Control	3		
	ENG470 Engineering Honours Thesis (H option)	6		
	ENG100 Engineering Professional Practice	0		
	<b>Total</b>	<b>12</b>	<b>Total</b>	

**TOTAL CREDIT POINTS 96**

<sup>1</sup> 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.

<sup>2</sup> 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)  
ENG231 - Renewable Energy Systems  
ENG344 - Electromechanical Energy Conversion  
ENG381 - Electrical Power Systems  
ENG382 - Power Electronics  
CHE140 - Fundamentals of Chemistry  
PEN152 - Principles of Physics  
ICT158 - Introduction to Information Systems  
MAS183 - Statistical Data Analysis  
ENG300 - Environmental Technology for Sustainability  
ENG221 - Pollution & its Control  
ENG341 - Water Conservation & Auditing  
ENV102 - Foundations of the Environment  
ENV243 - Water and Earth Science  
ENV242 - Atmospheric and Climate Science  
ENV303 - GIS for Environmental Management and Planning  
ENV331 - Environmental Management

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 prerequisites, commencing study in Semester 2 may extend the duration of the course. This information is correct as at 01/07/24.