

# Bachelor of Engineering Technology B1408 (Electrical and Renewable Energy Engineering)

Academic Chair: [M.Calais@murdoch.edu.au](mailto:M.Calais@murdoch.edu.au)

Start Date: Semester 2 2023

Suggested Industrial Control & Automation Focus

Year 1 – 2023	Semester 1 Units	CP	Semester 2 Units	CP
				MAS164 Fundamentals of Mathematics <sup>1</sup>
			ENG102 Engineering Design for Sustainability	3
			PEN120 General Physics <sup>2</sup>	3
			ENG101 Engineering Fundamentals	3
			<b>Total</b>	<b>12</b>
Year 2 - 2024	Semester 1 Units	CP	Semester 2 Units	CP
	MAS182 Applied Mathematics	3	MAS161 Calculus and Matrix Algebra	3
	ENG103 Principles of Engineering	3	ENG336 Engineering Finance, Ethics and Law	3
	ENG109 Engineering Computing Systems	3	ENG214 Electrical and Electronic Circuits	3
	Engineering Elective	3	BUS368 Cultures of Innovation	3
	<b>Total</b>	<b>12</b>	<b>Total</b>	<b>12</b>
Year 3 – 2025	Semester 1 Units	CP	Semester 2 Units	CP
	ENG344 Electromechanical Energy Conversion	3	ENG231 Renewable Energy Systems	3
	ENG215 Systems Engineering	3	ENG381 Electrical Power Systems	3
	MAS220 Mathematical Methods and Multivariable Calculus	3	ENG382 Power Electronics	3
	ENG251 PLC Systems (Engineering Elective)	3	ENG216 Dynamic Systems and Control	3
	<b>Total</b>	<b>12</b>	<b>Total</b>	<b>12</b>
Year 4 - 2026	Semester 1 Units	CP	Semester 2 Units	CP
	ENG360 Engineering Design Project	6		
	ENG392 SCADA and Instrumentation Systems (Engineering Elective)	3		
	ENG391 Process Control (Engineering Elective)	3		
	ENG100 Engineering Professional Practice	0		
	<b>Total</b>	<b>12</b>	<b>Total</b>	

**TOTAL CREDIT POINTS 72**

<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)  
CHE140 Fundamentals of Chemistry  
ENV102 Foundations of the Environment  
ENG221 Pollution & its Control  
ENG300 Environmental Technology for Sustainability  
ENG341 Water Conservation & Auditing  
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 Technology students should complete 300 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 13/06/24.