

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

Year 1/Advanced standing enquiries:

Academic Chair: Dr Amir Yazdani amirmehdi.yazdani@murdoch.edu.au

Start Semester

Date: 2 2025

Years 2-4 enquiries: Dr Martina Calais M.Calais@murdoch.edu.au

Double Major: Electrical and Renewable Energy Engineering/ Industrial Control and Automation Engineering

Year 1 – 2025	Semester 1 Units	CP	Semester 2 Units	CP
			MAS164 Fundamentals of Mathematics ¹	3
			ENG102 Engineering Design for Sustainability	3
			PEN120 General Physics ²	3
			ENG101 Engineering Fundamentals	3
			Total	12
Year 2 – 2026	Semester 1 Units	CP	Semester 2 Units	CP
	MAS182 Applied Mathematics	3	MAS161 Calculus and Matrix Algebra	3
	ENG103 Principles of Engineering	3	ENG336 Finance, Ethics and Law	3
	ENG109 Engineering Computing Systems	3	ENG209 Fundamentals of AC Circuits	3
	ENG208 Fundamentals of DC Circuits	3	ENG252 Embedded Systems ³ (or Engineering Elective)	3
	Total	12	Total	12
Year 3 – 2027	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 ³ (or Engineering Elective)	3	ENG216 Dynamic Systems and Control	3
	Total	12	Total	12
Year 4 – 2028	Semester 1 Units	CP	Semester 2 Units	CP
	ENG360 Engineering Design Project (S1 option)	6		
	ENG391 Process Control ³ (or Engineering Elective)	3		
	ENG392 SCADA and Instrumentation Systems ³ (or Engineering Elective)	3		
	ENG100 Engineering Professional Practice (S1 option)	0		
	Total	12	Total	

TOTAL CREDIT POINTS 72

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.

³ Students in the Electrical and Renewable Energy Engineering Major who wish to graduate with the double major in Electrical and Renewable Energy Engineering / Industrial Control and Automation Engineering need to complete the units ENG251, ENG252, ENG391 and ENG392. If students do not wish to complete the double major, other engineering electives can be chosen for all or some of these units (see below).

Recommended Engineering Elective Units

100 level (a maximum of 30 cpts can be completed at 100 level as part of the course)

SIK102 - Wandju Boodja (Welcome to Country) (S1, S2, SUM, W)

CHE140 - Fundamentals of Chemistry (S1, S2)

PEN152 - Principles of Physics (S1, S2)

ICT158 - Introduction to Information Systems (S2)

MAS162 – Discrete Mathematics and Logic (S1, S2)

MAS183 - Statistical Data Analysis (S1, S2)

200 level and above (students should carefully review the pre-requisites required for the below units):

ENG221 - Pollution and Its Control (S2)

ENG251 - PLC Systems (S1)

ENG252 - Embedded Systems (S2)

ENG300 - Environmental Technology for Sustainability (S2)

ENG341 - Water Conservation and Auditing (S1)

BUS368 – Cultures of Innovation (S2)

ENG391 - Process Control (S1)

ENG392 - SCADA and Instrumentation Systems (S1)

PEN594 – Energy Auditing and Management (S1)

(Any other elective units are subject to approval from the Academic Chair)

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 20/06/25.