

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

Academic Chair: travis.woodward@murdoch.edu.au
amirmehdi.yazdani@murdoch.edu.au

Start Date: Semester 2 2023

Suggested Electives Focus: Electrical and Renewable Energy Engineering

Year	Semester 1 Units		Semester 2 Units	
		CP		CP
Year 1 – 2024			MAS164 Fundamentals of Mathematics ¹	3
			PEN120 General Physics ²	3
			ENG101 Engineering Fundamentals	3
			ENG102 Engineering Design for Sustainability	3
			Total	12
Year 2 – 2025				
	MAS182 Introductory Calculus with Applications	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	3
	Engineering Elective	3	BUS368 Cultures of Innovation	3
	Total	12	Total	12
Year 3 – 2026				
	MAS220 Mathematical Methods and Multivariable Calculus	3	ENG216 Dynamic Systems and Control	3
	ENG215 Systems Engineering	3	ENG231 Renewable Energy Systems (Elective)	3
	ENG251 PLC Systems	3	ENG381 Electrical Power Systems (Elective)	3
	ENG344 Electromechanical Energy Conversion (Elective)	3	ENG336 Engineering Finance, Management and Law	3
	Total	12	Total	12
Year 4 – 2027				
	ENG391 Process Control	3	ICT515 Foundations of Data Science	3
	ENG392 SCADA and Instrumentation Systems	3	ENG382 Power Electronics (Elective)	3
	ENG551 Microcontrollers and Data Communication	3	ENG470 Engineering Honours Thesis (H option)	6
	Engineering Elective	3		
	Total	12	Total	12
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		
	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)
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.