

Enrolment Course Structure

Course Code – EN8.MEC

Course Name – Bachelor of Engineering (Mechanical Engineering) (Honours)

First Year	Unit Code	Unit Name	Unit Rules
Semester 1			
	ENGRG1001	Computational Skills for Engineers	
	ENGRG1002	Physics for Engineers 1	
	ENGRG1003	Engineering Design 1	
	MATHS1100	Applied Mathematics 1	EX: MATHS1001
Semester 2			
	COOPE1001	Professional Identity (Engineering)	
	ENGRG1004	Physics for Engineers 2	EX: ENGIN1002 & ENGIN1003
	ENGRG1005	Engineering Design 2	EX: ENGIN1004 & ENGIN3002
	MATHS2100	Applied Mathematics 2	EX: MATHS1005 & MATHS1102
Second Year	Unit Code	Unit Name	Unit Rules
Semester 1			
	ENGRG2301	Solid Mechanics	PR: ENGRG1003
	ENGRG2302	Fluid Mechanics	PR: ENGRG1002 & ENGRG1004 EX: ENGIN3301
	MATHS3100	Applied Mathematics 3	PR: MATHS1100 EX: MATHS3001
		Minor Unit 1	
Semester 2			
	ENGRG2303	Engineering Dynamics	PR: ENGRG1002 EX: ENGIN2302
	ENGRG2304	Thermodynamics	PR: ENGRG1002 & ENGRG1004 EX: ENGIN3304
	ENGRG2305	Mechanism and Machine Theory	PR: MATHS2100 EX: ENGIN2303
		Minor Unit 2	

Third Year	Unit Code	Unit Name	Unit Rules
Semester 1			
	COOPE2011	Cooperative Placement 1 (Engineering)	PR: COOPE1001 & At least 105 credit points from ENGRG subject-area at any level EX: BUGEN3751 & BUGEN3752 & SCCOR3003 & SCCOR3014
	ENGRG3301	Vibration Engineering	PR: ENGRG2302 EX: ENGIN3302
		Minor Unit 3	
Semester 2			
	COOPE2012	Cooperative Placement 2 (Engineering)	PR: COOPE1001 & At least 105 credit points from ENGRG subject-area at any level
	ENGRG3302	Machine Design	PR: ENGRG2301 & ENGRG2305 EX: ENGIN5301
		Minor Unit 4	
Fourth Year	Unit Code	Unit Name	Unit Rules
Semester 1			
	ENGRG4001	Engineering Design Project	PR: At least 300 credit points EX: ENGIN3002
	ENGRG4002	Engineering Capstone Project 1	PR: At least 300 credit points EX: ENGIN4001
	ENGRG4201	Control System Engineering	PR: ENGRG1004 EX: ENGIN3404
		Specialisation Elective Unit 1	
Semester 2			
	ENGRG4003	Engineering Capstone Project 2	PR: ENGRG4002 EX: ENGIN4002
	ENGRG9302	Advanced Robotics	PR: ENGRG2305 EX: ENGIN5304
		Specialisation Elective Unit 2	

Course Coordinator

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Minor Units

AI IN ENGINEERING

ITECH1400 Foundations of Programming
ITECH1504 Connected Systems
ITECH2500 Algorithms for Artificial Intelligence
ITECH3500 Machine Learning 1

BUSINESS ENTREPRENEURSHIP (ECONOMICS AND FINANCE)

BUECO1300 Introduction to Economics
BUECO2301 Financial Markets and Digital Innovations
BUECO2302 Investment and Portfolio Management
BUECO3304 Sustainability and Development

CIVIL ENGINEERING

ENGRG2101 Construction Engineering 1
ENGRG2102 Geotechnical Engineering 1
ENGRG2105 Road and Traffic Engineering
ENGRG2106 Hydrology and Hydraulics

COMPUTATIONAL ENGINEERING

ENGRG9101 Modelling and Simulation in Engineering
ITECH1400 Foundations of Programming
ITECH2500 Algorithms for Artificial Intelligence
ITECH2509 Data Structures and Algorithms

ELECTRICAL POWER GRID

ENGRG2204 Renewable Energy Principles
ENGRG2205 Electrical Machines Fundamentals
ENGRG3201 Power System Analysis
ENGRG3202 Power System Protection

INDUSTRY 4.0

ENGRG4201 Control System Engineering
ENGRG9203 Advanced Control System Engineering
ENGRG9301 Computer Aided Manufacturing
ITECH1502 Cybersecurity Fundamentals
ITECH1503 Data and Information Systems
ITECH1504 Connected Systems

MINING TECHNOLOGY

ENGRG2401 Introduction to Mining Engineering and Technologies
ENGRG2404 Rock Mechanics Application
ENGRG3401 Surface and Underground Mining Systems
ENGRG4401 Mine Planning and Scheduling

PROJECT MANAGEMENT

ENGIN5205 Engineering Project Management Theory
ENGIN5208 Sustainable Engineering Practice
ENGIN5209 Engineering Project Resource Planning

ENGIN5210 Engineering Project Execution

RENEWABLE ENERGY ENGINEERING

ENGRG2201 Digital Logic and Electronic Systems

ENGRG2202 Power Electronics

ENGRG2204 Renewable Energy Principles

ENGRG2205 Electrical Machines Fundamentals

SOFTWARE ENGINEERING

ITECH1400 Foundations of Programming

ITECH1503 Data and Information Systems

ITECH2004 Data Modelling

ITECH2306 Agile Coding

STATISTICAL DATA SCIENCE

ITECH5007 Data Science for All

STATS1000 Statistical Methods

STATS2100 Experimental Design & Analysis

STATS2101 Statistics for Prediction

Specialisation Elective Unit 1

ENGRG9301 Computer Aided Manufacturing

ENGRG9101 Modelling and Simulation in Engineering

ENGRG9303 Advanced Machine Design

Specialisation Elective Unit 2

ENGRG9203 Advanced Control System Engineering

ENGRG9304 Energy Conversion

ENGRG9305 Advanced Vibration Engineering

Additional Information

This course structure applies to students commencing from 2025. Students who commenced prior to 2025 should refer to the continuing enrolments page.

TEQSA have advised that, in accordance with B1.1.3 of [Higher Education Standards Framework \(Threshold Standards\) 2021](#) all Higher Education Providers are required to show their TEQSA Provider number and Provider Category on all relevant public material. ITS have ensured that our website and email signature templates have been amended to ensure compliance and have provided a knowledge article to assist you to update your signatures. Marketing are working to update the brand library and all social media accounts.

Glossary

Semester: designated teaching period.

PR: Pre-requisite, a unit/s that must be completed prior to undertaking another unit.

CO: Co-requisite, a unit/s that must be completed simultaneously, or prior to, undertaking another unit.

EX: Exclusion, a unit/s that may not be taken.