Mid-year Enrolment Course Structure

Course Code – EN8.MEC

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

First Year	Unit Code	Unit Name	Unit Rules
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			
	ENGRG1001	Computational Skills for Engineers	
	ENGRG1002	Physics for Engineers 1	
	ENGRG1003	Engineering Design 1	
	MATHS1100	Applied Mathematics 1	**EX:** MATHS1001
Semester 2			
	ENGRG2303	Engineering Dynamics	**PR**: ENGRG1002 **EX:** ENGIN2302
	ENGRG2302	Fluid Mechanics	**PR**: ENGRG1002 & ENGRG1004 **EX**: ENGIN3301
	MATHS3100	Applied Mathematics 3	**PR**: MATHS1100 **EX**: MATHS3001
		Minor Unit 1	

Third Year	Unit Code	Unit Name	Unit Rules
Semester 1			
	ENGRG2301	Solid Mechanics	**PR:** ENGRG1003
	ENGRG2304	Thermodynamics	**PR:** ENGRG1002 & ENGRG1004 **EX:** ENGIN3304
	ENGRG2307	Engineering Computer Applications and Interactive Design	**PR**: ENGRG1001 & ENGIN3401
		Minor Unit 2	

Semester 2

	Unit Code	Unit Name	Unit Rules
	COOPE2012	Cooperative Placement 2 (Engineering)	**PR:** COOPE1001 & At least 105 credit points from ENGRG subject-area at any level
	ENGRG3304	Industrial Automation and IoT	**PR**: ENGRG1004 **EX:** ENGIN2403 or ENGRG9302
		Minor Unit 3	

Fourth Year	Unit Code	Unit Name	Unit Rules
Semester 1			
	ENGRG3303	Engineering Materials and Manufacturing	**PR**: ENGRG1004 **EX:** ENGIN3305
	ENGRG4201	Control System Engineering	**PR**: ENGRG1004 **EX:** ENGIN3404
		Minor Unit 4	
	ENGRG4002	Engineering Capstone Project 1	**PR**: At least 300 credit points **EX:** ENGIN4001
Semester 2			
	ENGRG4003	Engineering Capstone Project 2	**PR**: ENGRG4002 **EX**: ENGIN4002
	ENGRG4301	Energy Conservation	**PR**: ENGRG2304 **EX**: ENGIN4302
	ENGRG4302	Design of Mechanical Systems	**PR:**ENGRG2301 and ENGRG2303 **EX**: ENGRG3302

Fifth Year	Unit Code	Unit Name	Unit Rules
Semester 1			
	ENGRG4001	Engineering Design Project	**PR**: At least 300 credit points **EX**: ENGIN3002
	COOPE2011	Cooperative Placement 1 (Engineering)	**PR**: COOPE1001 & At least 105 credit points from ENGRG subject-area at any level **EX:** BUGEN3751 & BUGEN3752 & SCCOR3003 & SCCOR3014
	ENGRG9101	Modelling and Simulation in Engineering	**PR**: Must be enrolled in EZ9 and have completed 1 of the following: MATHS2100 or ENGRG2301 **EX**: ENGIN3502

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 mid-year entry students.

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.