

Enrolment Course Structure

Course Code – EN8.EIE

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

Location: MTH

First Year			
Unit Code	Unit Name	Unit Rules	CR Points
Semester 1			
ENGRG1001	Computational Skills for Engineers		15
ENGRG1002	Physics for Engineers 1		15
ENGRG1003	Engineering Design 1		15
MATHS1100	Applied Mathematics 1	PR: MATHS1001	15
Semester 2			
COOPE1001	Professional Identity (Engineering)	PR: Students must be enrolled in one of the following courses: EN8, EN8.MIN, EN8.MEC, EN8.EIE, EN8.CIV	15
ENGRG1004	Physics for Engineers 2	EX: ENGIN1002 & ENGIN1003	15
ENGRG1005	Engineering Design 2	EX: ENGIN1004 & ENGIN3002	15
MATHS2100	Applied Mathematics 2	EX: MATHS1005 & MATHS1102	15
Second Year			
Unit Code	Unit Name	Unit Rules	CR Points
Semester 1			
ENGRG2201	Digital Logic and Electronic Systems	EX: ENGIN2105	15
ENGRG2202	Power Electronics	PR: ENGRG1004 EX: ENGIN3101	15
MATHS3100	Applied Mathematics 3	PR: MATHS1100 EX: MATHS3001	15
	Minor Unit 1		15
Semester 2			
ENGRG2203	Communication Engineering	PR: ENGRG1004 EX: ENGIN3104	15
ENGRG2204	Renewable Energy Principles	PR: ENGRG1004 EX: ENGIN2103	15
ENGRG2205	Electrical Machines Fundamentals	EX: ENGIN2404	15

Minor Unit 2

15

Third Year			
Unit Code	Unit Name	Unit Rules	CR Points
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	30
ENGRG3201	Power System Analysis	PR: ENGRG2205 EX: ENGIN3102	15

Minor Unit 3

15

Semester 2			
COOPE2012	Cooperative Placement 2 (Engineering)	PR: COOPE1001 & At least 105 credit points from ENGRG subject-area at any level	30
ENGRG3202	Power System Protection	PR: ENGRG3201 EX: ENGIN3103	15

Minor Unit 4

15

Fourth Year			
Unit Code	Unit Name	Unit Rules	CR Points
Semester 1			
ENGRG4001	Engineering Design Project	PR: At least 300 credit points EX: ENGIN3002	15
ENGRG4002	Engineering Capstone Project 1	PR: At least 300 credit points EX: ENGIN4001	15
ENGRG4201	Control System Engineering	PR: ENGRG1004 EX: ENGIN3404	15
Specialisation Elective Unit 1			15
Semester 2			
ENGRG4003	Engineering Capstone Project 2	PR: ENGRG4002 EX: ENGIN4002	30
ENGRG9206	Microgrids and Energy Storage System	PR: ENGRG2204 EX: ENGIN5102	15
Specialisation Elective Unit 2			15

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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

ENERGY STUDIES

ENGRG2302 Fluid Mechanics

ENGRG2304 Thermodynamics

ENGRG9101 Modelling and Simulation in Engineering

ENGRG9304 Energy Conversion

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

MECHATRONICS AND ROBOTICS

ENGRG2305 Mechanism and Machine Theory

ENGRG9101 Modelling and Simulation in Engineering

ENGRG9301 Computer Aided Manufacturing
ENGRG9302 Advanced Robotics

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

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

ENGRG9201 Digital and Embedded Systems
ENGRG9204 Electrical Power Distribution Engineering
ENGRG9205 IoT in Smart Energy Systems

Specialisation Elective Unit 2

ENGRG9202 Electrical Demand, Forecasting and Management
ENGRG9203 Advanced Control System Engineering
ENGRG9207 Power Electronic Application to Renewable Energy

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.