Mid-year Enrolment Course Structure

Course Code – EN8.EIE

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

First Year

Unit Code	Unit Name	Unit Rules	CR Points
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	CR Points
Semester 1			
ENGRG1001	Computational Skills for Engineers		
ENGRG1002	Physics for Engineers 1		
ENGRG1003	Engineering Design 1		
MATHS1100	Applied Mathematics 1	**EX:** MATHS1001	
Semester 2			
ENGRG2203	Communication Engineering	**PR:** ENGRG1004 **EX:** ENGIN3104	
MATHS3100	Applied Mathematics 3	**PR:** MATHS1100 **EX:** MATHS3001	
ENGRG2205	Electrical Machines Fundamentals	**EX:** ENGIN2404	
	Minor Unit 2		

Third Year

Unit Code	Unit Name	Unit Rules	CR Points
Semester 1			
ENGRG2201	Digital Logic and Electronic Systems	**EX:** ENGIN2105	15

Unit Code	Unit Name	Unit Rules	CR Points
ENGRG3201	Power Systems Analysis	**PR**: ENGRG2205 **EX**: ENGIN3102	15
ENGRG2204	Renewable Energy Principles	**PR**: ENGRG1004 **EX**: ENGIN2103	15
	Minor Unit 1		15
Semester 2			
COOPE2012	Co-operative Placement 2 (Engineering)	**PR**: COOPE1001 & At least 105 credit points from ENGRG subject-area at any level	30
ENGRG3304	Industrial Automation and IoT	**PR**: ENGRG1004 **EX**: ENGIN2403	15
	Minor Unit 4		15

Fourth Year			
Unit Code	**Unit Name**	**Unit Rules**	**CR Points**
Semester 1			
ENGRG2202	Power Electronics	**PR**: ENGRG1004 or must be enrolled in EZ9 **EX**: ENGIN3101	15
ENGRG4201	Control System Engineering	**PR**: ENGRG1004 **EX**: ENGIN3404	15
	Minor Unit 3		15
ENGRG4002	Engineering Capstone Project 1	**PR**: At least 300 credit points **EX**: ENGIN4001	15
Semester 2			
ENGRG4003	Engineering Capstone Project 2	**PR**: ENGRG4002 **EX**: ENGIN4002	30
ENGRG4202	Electrical Power Transmission Distribution and Protection	**PR**: ENGRG3201 **EX**: ENGRG9206 & ENGPG9207	15
ENGRG9202	Electrical Demand, Forecasting and Management	**PR**: ENGRG3201 & ENGRG 9205 **EX**:ENGIN5103	15

Fifth Year			
Unit Code	**Unit Name**	**Unit Rules**	**CR Points**
Semester 1			
ENGRG4001	Engineering Design Project	**PR**: At least 300 credit points **EX**: ENGIN3002	15
ENGRG9206	Microgrids and Energy Storage System	**PR**: ENGRG2204 **EX**: ENGIN5102	15

COOPE2011	Co-operative Placement 1 (Engineering)	**PR:** COOPE1001 & 105 CR Points **EX**: BUGEN3751, BUGEN3752, SCCOR3003, SCCOR3014, COOPC2025, COOPC2005	30

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 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.