

Mid-year Enrolment Course Structure

Course Code – EN8.MIN

Course Name – Bachelor of Engineering (Mining 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			
	ENGRG2302	Fluid Mechanics	PR: ENGRG1002 & ENGRG1004 EX: ENGIN3301
	ENGRG3402	Subsurface Environment and Ventilation	PR: ENGRG2302
	ENGRG2404	Rock Mechanics Application	EX: ENGIN5507
		Minor Unit 2	
Third Year	Unit Code	Unit Name	Unit Rules
Semester 1			
	ENGRG2301	Solid Mechanics	PR: ENGRG1003
	ENGRG2402	Mining Geology and Mineral Processing	
		Minor Unit	

Winter Semester			
	ENGRG2403	Rock Fragmentation	EX: ENGIN2502
Semester 2			
	COOPE2011	Cooperative Placement 1 (Engineering)	PR: COOPE1001 & At least 105 credit points from ENGRG subject-area at any level EX: BUGEN3751 & BUGEN3752 & SCCOR3003 & SCCOR3014
	ENGRG3403	Underground Production Systems	PR: ENGRG2403 EX: ENGIN3501
		Minor Unit	
Fourth Year	Unit Code	Unit Name	Unit Rules
Semester 1			
	ENGRG2306	Surface Mining Operations and Equipment	PR: If in undergraduate course ENGRG2403 EX: ENGIN3503
	ENPGG9405	Mine Planning and Scheduling	EX: ENGRG4401
	ENGRG4002	Engineering Capstone Project 1	PR: At least 300 credit points EX: ENGIN4001
		Minor Unit	
Semester 2			
	ENGRG4003	Engineering Capstone Project 2	PR: ENGRG4002 EX: ENGIN4002
	ENPGG9406	Mine Surveying	
	ENPGG9407	Smart Engineering Technologies	EX: ENGRG94001
Fifth Year	Unit Code	Unit Name	Unit Rules
Semester 1			
	ENGRG4001	Engineering Design Project	PR: At least 300 credit points EX: ENGIN3002
	COOPE2012	Cooperative Placement 2 (Engineering)	PR: COOPE1001 & At least 105 credit points from ENGRG subject-area at any level
	ENPGG9409	Mine and Safety Environmental Engineering	EX: ENGRG9403

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

ENERGY STUDIES

ENGRG2302 Fluid Mechanics
ENGRG2304 Thermodynamics
ENGRG9101 Modelling and Simulation in Engineering
ENGRG9304 Energy Conversion

ENVIRONMENTAL ENGINEERING

SCENV2400 Wetlands and Water Resources
SCENV3120 Landscape Restoration and Mine Site Rehabilitation
SCENV3500 Climate and Environmental Issues in a Changing World
SCGEO1104 Landscape Evolution
SCGEO2106 Hydrology
SCSUS1500 Sustainable Earth

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

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

ENGIN5501 Mine Safety and Environment Engineering

Specialisation Elective Unit 2

ENGIN5508 Smart Engineering Technologies

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.