

## Enrolment Course Structure

Course Code – EN8.MEC

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

First Year			
Unit Code	Unit Name	Unit Rules	CR Points
<b>Semester 1</b>			
ENRG 1001	Computational Skills for Engineers	<b>EX:</b> ENGIN1004	
ENRG 1002	Physics for Engineers 1	<b>EX:</b> ENGIN1002	
ENRG 1003	Engineering Design 1	<b>EX:</b> ENGIN1005	
MATHS 1100	Applied Mathematics 1	<b>EX:</b> MATHS1001	
<b>Semester 2</b>			
COOPE 1001	Professional Identity (Engineering)	<b>PR:</b> Must be enrolled in EN8 or EN8.MIN or EN8.EIE or EN8.CIV	
ENRG 1004	Physics for Engineers 2	<b>EX:</b> ENGIN1002 & ENGIN1003	
ENRG 1005	Engineering Design 2	<b>EX:</b> ENGIN1004 & ENGIN3002	
MATHS 2100	Applied Mathematics 2	<b>EX:</b> MATHS1005 & MATHS1102	
Second Year			
Unit Code	Unit Name	Unit Rules	CR Points
<b>Semester 1</b>			
ENRG 2301	Solid Mechanics	<b>PR:</b> ENRG 1003	
ENRG 2304	Thermodynamics	<b>PR:</b> ENRG 1002 & ENRG 1004 <b>EX:</b> ENGIN3304	
ENRG 2307	Engineering Computer Applications and Interactive Design	<b>PR:</b> ENRG 1001 <b>EX:</b> ENGIN3401	
Minor Unit 1			
<b>Semester 2</b>			
ENRG 2303	Engineering Dynamics	<b>PR:</b> ENRG 1002 <b>EX:</b> ENGIN2302	
ENRG 2302	Fluid Mechanics	<b>PR:</b> ENRG 1002 & ENRG 1004 <b>EX:</b> ENGIN3301	
MATHS 3100	Applied Mathematics 3	<b>PR:</b> MATHS 1100 <b>EX:</b> MATHS 3001	
Minor Unit 2			

Third Year			
Unit Code	Unit Name	Unit Rules	CR Points
<b>Semester 1</b>			
COOPE 2011	Cooperative Placement 1 (Engineering)	<b>PR:</b> COOPE1001 & At least 105 credit points from ENRG subject-area at any level <b>EX:</b> BUGEN3751 & BUGEN3752 & SCCOR3003 & SCCOR3014	
ENRG 3303	Energy Materials and Manufacturing	<b>PR:</b> ENRG1004 <b>EX:</b> ENGIN3305	
Minor Unit 3			
<b>Semester 2</b>			
COOPE 2012	Cooperative Placement 2 (Engineering)	<b>PR:</b> COOPE1001 & At least 105 credit points from ENRG subject-area at any level	
ENRG 3304	Industrial Automation and IoT	<b>PR:</b> ENRG1004 <b>EX:</b> ENGIN2403, ENRG9302	
Minor Unit 4			
Fourth Year			
Unit Code	Unit Name	Unit Rules	
<b>Semester 1</b>			
ENRG 4001	Engineering Design Project	<b>PR:</b> At least 300 credit points <b>EX:</b> ENGIN3002	
ENRG 4002	Engineering Capstone Project 1	<b>PR:</b> At least 300 credit points <b>EX:</b> ENGIN4001	
ENRG 4201	Control System Engineering	<b>PR:</b> ENRG1004 <b>EX:</b> ENGIN3404	
ENRG 9101	Modelling and Simulation in Engineering	<b>PR:</b> MATHS2100 or ENRG2301 or must be in EZ9 <b>EX:</b> ENGIN5302	
<b>Semester 2</b>			
ENRG 4003	Engineering Capstone Project 2	<b>PR:</b> ENRG4002 <b>EX:</b> ENGIN4002	30
ENRG 4302	Design of Mechanical Systems	<b>PR:</b> ENRG2305 <b>EX:</b> ENGIN5304	15
ENPG 9307	Energy Conversion	<b>PR:</b> ENRG9304	15

**Course Coordinator**

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## Minor Units

### ARTIFICIAL INTELLIGENCE

ITECH 1400 Foundations of Programming  
ITECH 1503 Data and Information Systems  
ITECH 2500 Algorithms for Artificial Intelligence  
ITECH 2501 Business Analytics and Decision Support

### BUSINESS ENTREPRENEURSHIP

BUMGT 1100 Introduction to Management  
BUMGT 1103 Contemporary Human Resource Management  
BUMGT 3105 Leadership and Change  
BUMGT 3106 Human Resource Practice and Strategy

### MINING TECHNOLOGY

ENGRG 2306 Surface Mining Operations and Equipment  
ENGRG 2404 Rock Mechanics Application  
ENGRG 3403 Underground Production Systems  
ENGRG 2403 Rock Fragmentation

### SOFTWARE DEVELOPMENT

ITECH 1400 Foundations of Programming  
ITECH 1501 User Centred Design  
ITECH 2509 Data Structure and Algorithms  
ITECH 2306 Agile Coding

### INFRASTRUCTURE SYSTEMS

ENGP9110 Road and Traffic Engineering  
ENGRG2106 Hydrology and Hydraulics  
ENGRG2107 Construction Engineering  
ENGRG4106 Intelligent Technologies for Sustainable Construction

### ELECTRICAL AND ELECTRONICS SYSTEMS

ENRG 2201 Digital Logic and Electronic Systems  
ENRG2204 Renewable Energy principles  
ENRG2205 Electrical Machines fundamentals  
ENRG9202 Electrical Demand, Forecasting and Management

## Additional Information

This course structure applies to students commencing from 2026. Students who commenced prior to 2026 should refer to the continuing enrolments page.

## 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.