FACULTY OF ENGINEERING AND SCIENCE

Units Offered – Semesters 1 & 2, 2025

(Undergraduate Programme)

*(**Rev.01** – changes are highlighted in yellow **and/or** refer to last page for revision note)*

Date: Thursday, October 3, 2024

UNIT CODE	UNIT TITLE	SEM 1, 2025	SEM 2, 2025	REMARKS
DEPARTMENT: ENGINEERING FIRST YEAR HEAD OF DEPARTMENT: DR TAN YEE YONG				
MATH1019	Linear Algebra and Statistics for Engineers	√	√	
INDE1001	Engineering Foundations: Principles, Design and Communication	√	√	
ELEN1000	Electrical Systems	√	√	
MCEN1000	Engineering Mechanics	√	√	
MATH1020	Calculus for Engineers	√	√	
PRRE1003	Resources, Processes and Materials Engineering	√	√	
COMP1005	Fundamentals of Programming	√	√	
ELEN1002	Sustainability and Renewable Energy	√	√	Optional Unit
GEOL1007	Planetary Science		√	Optional Unit; Applies to students enrolled in Semester 2, 2024 onwards
CHEM1000	Principles and Processes in Chemistry	√	√	
CMPE1000	Hardware Fundamentals	√		
ISAD1000	Introduction to Software Engineering	√		
GEOL1008	Dynamic Earth	√		
SPAT1007	Fundamentals of Geographic Information Systems	√		
BLDG1004	Introduction to Management in Construction	√		
DEPARTMENT: CHEMICAL AND ENERGY ENGINEERING HEAD OF DEPARTMENT: PROF. IR. TS. STEPHANIE CHAN YEN SAN				
PROGRAMME: CHEMICAL ENGINEERING				
CHEN2002	Process Heat Transfer	√		
CHEM1000	Principles and Processes in Chemistry	√	√	
CHEN2000	Mass and Energy Balances	√	√	
ENGR2000	Fluid Mechanics	√		Common Engineering Unit
CHEN3010	Reaction Engineering	√		
CHEN3003	Process Synthesis and Design	√		
CHEN3009	Fluid and Particle Processes	√		
ENGR4000	Engineering Industry Research Project 1	√	√	
ENGR4001	Engineering Industry Research Project 2	√	√	
CHEN4001	Process Safety and Risk Management	√		
CHEN4012	Advanced Unit Operations	√		
CHEN2001	Thermodynamics		√	
CHEM1002	Reactivity and Function in Chemistry	√	√	
CHEN2003	Process Mass Transfer		√	
CHEN2004	Process Simulation and Data Analytics		√	
CHEN3001	Computational Transport Phenomena	√	√	
CHEN4016	Engineering Economics, Management and Sustainability		√	
CHEN3005	Process Instrumentation and Control		√	
CHEN4015	Chemical Engineering Design Project		√	
Specialisation Units Year 3 *(please refer to Course Structure for list of specialisations offered)*:				
CHEN3012	Materials Selection and Corrosion	√		SPUE-TRENT Transitional Energy Technologies Specialisation; SPUE-ADMPR Advanced Materials and Processing Specialisation
CHEN4018	Natural Gas Processing	√		SPUE-TRENT Transitional Energy Technologies Specialisation

UNIT CODE	UNIT TITLE	SEM 1, 2025	SEM 2, 2025	REMARKS
CHEN3013	Sustainable Palm Oil Processing and Production		√	SPUE-ADMPR Advanced Materials and Processing Specialisation
CHEN3014	Water and Wastewater Treatment Processes	√		SPUE-WAWMG Water, Air and Waste Management Specialisation
ENEN2001	Solid and Hazardous Waste Management		√	SPUE-WAWMG Water, Air and Waste Management Specialisation
Specialisation Units Year 4 *(please refer to Course Structure for list of specialisations offered)*:				
PRRE4007	Hydrogen Energy	√		SPUE-TRENT Transitional Energy Technologies Specialisation
CHEN4019	Electrochemical Storage and Conversion		√	SPUE-TRENT Transitional Energy Technologies Specialisation
CHEN4003	Advanced Process Integration	√		SPUE-ADMPR Advanced Materials and Processing Specialisation
CHEN4010	Advanced Thermodynamics and Reactor Engineering		√	SPUE-ADMPR Advanced Materials and Processing Specialisation
CHEN4020	Carbon Management	√		SPUE-WAWMG Water, Air and Waste Management Specialisation
ENEN3000	Aerial Emissions and Abatement		√	SPUE-WAWMG Water, Air and Waste Management Specialisation
PROGRAMME: ENERGY ENGINEERING				
CHEN2000	Mass and Energy Balances	√		Shared unit with Chemical Engineering
ELEN2000	Electrical Circuits	√		Shared unit with Electrical and Electronic Engineering
CHEN2002	Process Heat Transfer	√		Shared unit with Chemical Engineering
ENGR2000	Fluid Mechanics	√		Common Engineering Unit
ENGR2002	Introduction to Energy Engineering		√	
CHEN2001	Thermodynamics		√	Shared unit with Chemical Engineering
ENGR2003	Sustainable Energy Systems Engineering		√	
MCEN2007	Mechanics for Energy Engineering		√	
PROGRAMME: PETROLEUM ENGINEERING				
PEEN3000	Formation Evaluation	√	√	
PEEN3008	Advanced Reservoir Engineering		√	
PEEN3002	Petroleum Production Technology		√	
PEEN3006	Drilling Engineering and Fluids Laboratory		√	
CHEN3011	Petroleum Field and Refinery Processing		√	
PEEN4011	Petroleum Field Development Planning		√	
DEPARTMENT: CIVIL AND CONSTRUCTION ENGINEERING **HEAD OF DEPARTMENT: ASSOCIATE PROF. IR. DR WONG KWONG SOON**				
PROGRAMME: CIVIL AND CONSTRUCTION ENGINEERING				
CSEN2000	Civil Engineering Construction Materials	√		
ENGR2000	Fluid Mechanics	√		Common Engineering Unit
CVEN2000	Civil Engineering Drawing and Surveying	√		
STEN2005	Structural Analysis of Determinate Structures	√		
TREN3001	Transportation Engineering and Earthworks	√		
GEOT3002	Geotechnical Engineering Analysis	√		
CVEN4003	Civil and Construction Engineering Research Project 1	√	√	
CVEN4004	Civil and Construction Engineering Research Project 2	√	√	
CSEN3002	Structural Actions and Steel Design	√		

UNIT CODE	UNIT TITLE	SEM 1, 2025	SEM 2, 2025	REMARKS
CSEN4003	Civil Engineering Practices, Quality and Legislation	√		
STEN4003	Integrated Structural Design	√		
GEOT4002	Geotechnical Design and Modelling	√		
STEN4004	Advanced Structural Modelling	√		
STEN2006	Structural Analysis of Indeterminate Structures		√	
CVEN2001	Water and Environmental Resources		√	
STEN2004	Structural Mechanics		√	
GEOT2000	Principles of Geomechanics		√	
CSEN3000	Civil Engineering Project and Cost Management		√	
CVEN3002	Hydraulics and Hydrology		√	
CSEN3003	Reinforced Concrete Design		√	
CSEN4002	Integrated Design and Construction		√	
TREN4002	Traffic and Road Pavement Engineering		√	
STEN4005	Advanced Concrete Design and Construction		√	
Specialisation Units Year 3 *(please refer to Course Structure for list of specialisations offered)*:				
BLDG2013	Construction Plant and Equipment	√		SPUE-CONEN Construction Engineering Specialisation; SPUE-INFST Infrastructure Specialisation
TREN4002	Traffic and Road Pavement Engineering		√	SPUE-CONEN Construction Engineering Specialisation
STEN3003	Advanced Structural Analysis	√		SPUE-STENG Structural Engineering Specialisation; SPUE-INFST Infrastructure Specialisation
STEN4006	Structural Dynamics		√	SPUE-STENG Structural Engineering Specialisation; SPUE-INFST Infrastructure Specialisation
ENEN3009	Water and Environmental Engineering		√	SPUE-INFST Infrastructure Specialisation
STEN4005	Advanced Concrete Design and Construction		√	SPUE-INFST Infrastructure Specialisation
ENST3008	Biodiversity Conservation	√		SPUC-SUENV Sustainable Environment Specialisation
ENEN4014	Sustainable Urban Management and Planning		√	SPUC-SUENV Sustainable Environment Specialisation
CHEN2000	Mass and Energy Balances	√		SPUC-PROEN Process Engineering Specialisation *(Specialisation offered by Department Chemical and Energy Engineering)*
CHEN2004	Process Simulation and Data Analytics		√	SPUC-PROEN Process Engineering Specialisation *(Specialisation offered by Department Chemical and Energy Engineering)*
MXEN2003	Microcontroller Project	√		SPUC-ROBAU Robot Automation Specialisation *(Specialisation offered by Mechanical Engineering)*
MXEN3000	Mechatronics Design Project		√	SPUC-ROBAU Robot Automation Specialisation *(Specialisation offered by Mechanical Engineering)*
PROGRAMME: ENVIRONMENTAL ENGINEERING				
ENGR2000	Fluid Mechanics	√		Common Engineering Unit
ENEN2004	Water Resource Management and Treatment Principles	√		
ENEN2002	Energy Management and Climate Change	√		
ENST2005	Environmental Chemistry and Microbiology	√		
ENEN2003	Wastewater Treatment Principles and Design		√	
ENST2006	Environmental Monitoring and Analysis		√	
ENEN2001	Solid and Hazardous Waste Management		√	
GEOT2000	Principles of Geomechanics		√	Shared unit with Civil and Construction Engineering

UNIT CODE	UNIT TITLE	SEM 1, 2025	SEM 2, 2025	REMARKS
ENST3000	Environmental Impact Assessment	√		Students should complete 250 credits or equivalent prior to enrolling into this unit
MGMT3000	Engineering Management and Professional Practice		√	Shared unit with Electrical and Computer Engineering
ENEN3000	Aerial Emissions and Abatement		√	
CVEN3002	Hydraulics and Hydrology		√	Shared unit with Civil and Construction Engineering
ENEN4009	Environmental Engineering Design	√		
ENEN4006	Environmental Engineering Research Project 1	√	√	
ENEN4007	Environmental Engineering Research Project 2	√	√	
ENEN4004	Geoenvironmental Engineering	√		
ENEN4003	Environmental Integrated Design Project	√		
ENEN4008	Environmental Considerations in Construction	√		
Specialisation Units Year 3 *(please refer to Course Structure for list of specialisations offered)*:				
ENST3008	Biodiversity Conservation	√		SPUC-SUENV Sustainable Environment Specialisation
ENEN4014	Sustainable Urban Management and Planning		√	SPUC-SUENV Sustainable Environment Specialisation
CHEN2000	Mass and Energy Balances	√		SPUC-PROEN Process Engineering Specialisation *(Specialisation offered by Department Chemical and Energy Engineering)*
CHEN2004	Process Simulation and Data Analytics		√	SPUC-PROEN Process Engineering Specialisation *(Specialisation offered by Department Chemical and Energy Engineering)*
MXEN2003	Microcontroller Project	√		SPUC-ROBAU Robot Automation Specialisation *(Specialisation offered by Mechanical Engineering)*
MXEN3000	Mechatronics Design Project		√	SPUC-ROBAU Robot Automation Specialisation *(Specialisation offered by Mechanical Engineering)*
CSEN2000	Civil Engineering Construction Materials	√		SPUC-CIVEN Civil Engineering Specialisation
STEN2005	Structural Analysis of Determinate Structures		√	SPUC-CIVEN Civil Engineering Specialisation
STEN2004	Structural Mechanics		√	SPUC-CIVEN Civil Engineering Specialisation
Specialisation Units Year 4 *(please refer to Course Structure for list of specialisations offered)*:				
CHEN4020	Carbon Management	√		SPUC-SUENV Sustainable Environment Specialisation
ENEN4013	Environmental, Social and Governance		√	SPUC-SUENV Sustainable Environment Specialisation
CHEN3009	Fluid and Particle Processes	√		SPUC-PROEN Process Engineering Specialisation *(Specialisation offered by Department Chemical and Energy Engineering)*
CHEN4001	Process Safety and Risk Management		√	SPUC-PROEN Process Engineering Specialisation *(Specialisation offered by Department Chemical and Energy Engineering)*
TREN3001	Transportation Engineering and Earthworks	√		SPUC-CIVEN Civil Engineering Specialisation
CSEN3000	Civil Engineering Project and Cost Management		√	SPUC-CIVEN Civil Engineering Specialisation
DEPARTMENT: ELECTRICAL AND COMPUTER ENGINEERING HEAD OF DEPARTMENT: MR. TERENCE TAN				
PROGRAMME: BACHELOR OF TECHNOLOGY (COMPUTER SYSTEMS AND NETWORKING)				
CMPE1000	Hardware Fundamentals	√		
COMP1007	Programming Design and Implementation	√	√	
MATH1019	Linear Algebra and Statistics for Engineers	√	√	Shared Unit with Engineering First Year

UNIT CODE	UNIT TITLE	SEM 1, 2025	SEM 2, 2025	REMARKS
INDE1001	Engineering Foundations: Principles, Design and Communication	√	√	Shared Unit with Engineering First Year
CMPE2000	Data Communications and Network Management	√		
ELEN2002	Transmission and Interface Design	√		
ISEC2000	Fundamental Concepts of Cryptography	√		Optional Unit
ISEC2001	Fundamental Concepts of Data Security	√		Optional Unit / Elective Unit
COMP3001	Design and Analysis of Algorithms	√		Optional Unit
ICTE3002	Human Computer Interface	√		Optional Unit
ISAD1000	Introduction to Software Engineering	√		Optional Unit
COMP2003	Object Oriented Software Engineering	√		Elective Unit
CMPE3002	Computer Technology Project 1	√	√	
CMPE3003	Computer Technology Project 2	√	√	
COMP2006	Operating Systems	√		
CNCO3000	Distributed Networks	√		
COMT3002	Internet of Things Design and Communications	√		
COMP1002	Data Structures and Algorithms	√	√	
COMP2000	Computer Systems		√	
ETEN1000	Electronics		√	
ISYS2014	Database Systems		√	
COMP1000	Unix and C Programming		√	
CMPE2003	Microcomputers		√	
MGMT3000	Engineering Management and Professional Practice		√	
CMPE3001	Embedded Systems Engineering		√	
CMPE3004	Network Engineering		√	
ISEC3004	Cyber Crime and Security Enhanced Programming		√	Optional Unit
ISEC3005	Cyber Security – Intrusion Detection System and Incident Handling		√	Optional Unit
COMP2008	Mobile Application Development		√	Optional Unit
CMPE2002	Requirements Engineering		√	Elective Unit
ISEC1000	Cyber Security Concepts		√	Elective Unit
PROGRAMME: ELECTRICAL AND ELECTRONIC ENGINEERING				
ELEN2000	Electrical Circuits	√		
MATH2009	Calculus 2	√		
ETEN2001	Electronic Fundamentals	√		
CMPE2001	Foundations of Digital Design	√		
MXEN3004	Dynamic Modelling and Control	√		
ETEN3003	Power Electronics	√		
ELEN3002	Fundamentals of Engineering Electromagnetics	√		
EEET4000	Engineering Research Project 1	√	√	
EEET4002	Integrated Design Project	√		
ETEN4001	Industrial Automated Systems	√		
EEET4001	Engineering Research Project 2	√	√	
ELEN4006	Smart and Micro Grids	√		From the old course structure. Still offered in 2025S1 (handbook)
ELEN4001	Electric Power Generation, Transmission and Distribution		√	
MGMT3000	Engineering Management and Professional Practice		√	
ETEN2000	Signals and Systems		√	
ELEN3004	Renewable Energy Principles		√	
CMPE2003	Microcomputers		√	
ELEN2005	Electrical Machines		√	
COMT3000	Communications Engineering		√	
ELEN4007	Electrical Machines Drives and Control		√	
ELEN3001	Power System Analysis		√	
Specialisation Units Year 3 *(please refer to Course Structure for list of specialisations offered)*:				
CMPE2000	Data Communication and Network Management	√		SPUC-CYBSE Cybersecurity Specialisation
ISEC3005	Cyber Security - Intrusion Detection System and Incident Handling		√	SPUC-CYBSE Cybersecurity Specialisation

UNIT CODE	UNIT TITLE	SEM 1, 2025	SEM 2, 2025	REMARKS
ENST3008	Biodiversity Conservation	√		SPUC-SUENV Sustainable Environment Specialisation *(Specialisation offered by Environmental Engineering)*
ENEN4014	Sustainable Urban Management and Planning		√	SPUC-SUENV Sustainable Environment Specialisation *(Specialisation offered by Environmental Engineering)*
CHEN2000	Mass and Energy Balances	√		SPUC-SIMDM Simulation and Data Management Specialisation *(Specialisation offered by Department Chemical and Energy Engineering)*
CHEN2004	Process Simulation and Data Analytics		√	SPUC-SIMDM Simulation and Data Management Specialisation *(Specialisation offered by Department Chemical and Energy Engineering)*
Specialisation Units Year 4 *(please refer to Course Structure for list of specialisations offered)*:				
CHEN3003	Process Synthesis and Design	√		SPUC-SIMDM Simulation and Data Management Specialisation *(Specialisation offered by Department Chemical and Energy Engineering)*
CHEN4003	Advanced Process Integration		√	SPUC-SIMDM Simulation and Data Management Specialisation *(Specialisation offered by Department Chemical and Energy Engineering)*
CHEN4011	Advanced Modelling and Control		√	SPUC-SIMDM Simulation and Data Management Specialisation *(Specialisation offered by Department Chemical and Energy Engineering)*
CHEN4020	Carbon Management	√		SPUC-SUENV Sustainable Environment Specialisation *(Specialisation offered by Environmental Engineering)*
ENEN4013	Environmental, Social and Governance		√	SPUC-SUENV Sustainable Environment Specialisation *(Specialisation offered by Environmental Engineering)*
ISEC2001	Fundamental Concepts of Data Security	√		SPUC-CYBSE Cybersecurity Specialisation
ISEC1000	Cyber Security Concepts		√	SPUC-CYBSE Cybersecurity Specialisation
ISEC3002	Penetration Testing and Defence		√	SPUC-CYBSE Cybersecurity Specialisation
PROGRAMME: BACHELOR OF COMPUTING – SOFTWARE ENGINEERING MAJOR				
COMP1007	Programming Design and Implementation	√	√	
ISAD1000	Introduction to Software Engineering	√		
ISEC2001	Fundamental Concepts of Data Security	√		
NPSC1003	Integrating Indigenous Science and STEM	√		
CNCO2000	Computer Communications	√	√	
COMP2003	Object Oriented Software Engineering	√		
COMP2006	Operating Systems	√		
CMPE3008	Software Engineering Testing	√		
ISAD3000	Capstone Computing Project 1	√	√	
ICTE3002	Human Computer Interface	√		
COMP3001	Design and Analysis of Algorithms	√		
EIT301	Engineering Industrial Training	Year 2 Summer Semester (December)		
ISEC2000	Fundamental Concepts of Cryptography	√		Elective Unit Y3 S1 *(Normal Intake)*; Y3 S2 *(Mid-Year)*
COMP3010	Machine Learning	√		Elective Unit Y3 S1 *(Normal Intake)*; Y3 S2 *(Mid-Year)*
CNCO3003	Mobile Cloud Computing	√		Elective Unit Y3 S1 *(Normal Intake)*; Y3 S2 *(Mid-Year)*
COMP2002	Unix Systems Programming	√		Elective Unit Y3 S1 *(Normal Intake)*; Y3 S2 *(Mid-Year)*
COMP1000	Unix and C Programming	√	√	
COMP1002	Data Structures and Algorithms	√	√	
ISYS2014	Database Systems		√	

UNIT CODE	UNIT TITLE	SEM 1, 2025	SEM 2, 2025	REMARKS
MATH1019	Linear Algebra and Statistics for Engineers	√	√	Shared Unit with Engineering First Year
CMPE2002	Requirements Engineering		√	
COMP3008	Distributed Computing		√	
COMP2008	Mobile Application Development		√	
ISEC3004	Cyber Crime and Security Enhanced Programming		√	
ISAD3001	Capstone Computing Project 2	√	√	
COMP3003	Software Architecture and Extensible Design		√	
COMP1006	Foundations of Computer Science		√	Compulsory Elective
COMP2005	Computing Topics		√	Elective Unit Y3 S2 *(Normal Intake)*
COMP2000	Computer Systems		√	Elective Unit Y3 S2 *(Normal Intake)*; Y1 S1 *(Compulsory Elective: Mid-Year)*
ISEC1000	Cyber Security Concepts		√	Elective Unit Y3 S2 *(Normal Intake)*
ISEC3005	Cyber Security- Intrusion Detection System and Incident Handling		√	Elective Unit Y3 S2 *(Normal Intake)*
PROGRAMME: BACHELOR OF COMPUTING – CYBER SECURITY MAJOR				
COMP1007	Programming Design and Implementation	√	√	
ISAD1000	Introduction to Software Engineering	√		
ISEC2001	Fundamental Concepts of Data Security	√		
NPSC1003	Integrating Indigenous Science and STEM	√		
CNCO2000	Computer Communications	√	√	
COMP2006	Operating Systems	√		
COMP2002	Unix Systems Programming	√		
ISEC2000	Fundamental Concepts of Cryptography	√		
CNCO3003	Mobile Cloud Computing	√		
COMP3010	Machine Learning	√		
ISAD3000	Capstone Computing Project 1	√	√	
ISAD3001	Capstone Computing Project 2	√	√	
COMP1000	Unix and C Programming	√	√	
COMP1002	Data Structures and Algorithms	√	√	
MATH1019	Linear Algebra and Statistics for Engineers	√	√	Shared Unit with Engineering First Year
ISEC1000	Cyber Security Concepts		√	
COMP2005	Computing Topics		√	
ISYS2014	Database Systems		√	
ISEC3004	Cyber Crime and Security Enhanced Programming		√	
ISEC3002	Penetration Testing and Defence		√	
ISEC3005	Cyber Security- Intrusion Detection System and Incident Handling		√	
EIT301	Engineering Industrial Training	Year 2 Summer Semester		
COMP2000	Computer Systems		√	Elective Y2 S1 *(Mid-Year)*; Elective Y3 S2, Y2 S2 *(Normal Intake)*
COMP3003	Software Architecture and Extensible Design		√	Elective Y3 S2, Y2 S2 *(Normal Intake)*
ICTE3002	Human Computer Interface	√		Elective Y3 S1 *(Normal Intake)*
COMP3001	Design and Analysis of Algorithms	√		Elective Y3 S1 *(Normal Intake)*
CMPE2002	Requirements Engineering		√	Elective Y2 S1 *(Mid-Year)* / Y2 S2; Y3 S2 *(Normal Intake)*
CMPE3008	Software Engineering Testing	√		Elective Y3 S1 *(Normal Intake)*
COMP2008	Mobile Application Development		√	Elective Y2 S1 *(Mid-Year)* / Y2 S2; Y3 S2 *(Normal Intake)*
COMP2003	Object Oriented Software Engineering	√		Elective Y3 S1 *(Normal Intake)*
DEPARTMENT: MECHANICAL AND MECHATRONIC ENGINEERING **HEAD OF DEPARTMENT: ASSOCIATE PROF. DR MOOLA MOHAN REDDY**				
PROGRAMME: MECHANICAL ENGINEERING				
ENGR2000	Fluid Mechanics	√		Common Engineering Unit

UNIT CODE	UNIT TITLE	SEM 1, 2025	SEM 2, 2025	REMARKS
MCEN2000	Fundamentals of Strength of Materials	√		
MCEN2003	Machine Dynamics	√		
MCEN2006	Computer Aided Drawing and Engineering Modelling	√		
ENGR2001	Ethics and Sustainability in Engineering		√	
MCEN2004	Manufacturing Processes		√	
MCEN2002	Fundamentals of Mechanical Design		√	
MCEN2001	Fundamentals of Thermodynamics		√	
MCEN3004	Advanced Strength of Materials	√		
MCEN3008	Fundamentals of Heat Transfer	√		
MCEN3009	Linear Systems and Vibrations	√		
MCEN3002	Applied Fluid Mechanics		√	
MCEN3001	Machine Design		√	
MCEN3007	Exposure to Professional Engineering Practice		√	
MCEN4015	Integrated Mechanical Design	√		
MCEN4005	Mechanical Engineering Research Project 1	√		
MCEN4006	Mechanical Engineering Research Project 2		√	
For final year students only				
MCEN4005	Mechanical Engineering Research Project 1	√	√	
MCEN4006	Mechanical Engineering Research Project 2	√	√	
MCEN4015	Integrated Mechanical Design	√		
MCEN4002	Materials Engineering	√		(Elective 1, Year 4 Semester 1)
MCEN4004	Heat Transfer	√		(Elective 2, Year 4 Semester 1)
MCEN4011	Engineering Design Methodology	√		(Elective 3, Year 4 Semester 1)
MCEN4010	Professional Engineering Practice		√	
BLAW2000	Law for Engineers		√	For any Mechanical students who are yet to take this unit
MCEN4001	Industrial Fluid Mechanics		√	(Elective 1 – Year 4, Semester 2)
MCEN4008	Finite Element Analysis		√	(Elective 2 – Year 4, Semester 2)
MCEN4009	Engineering Noise Control		√	(Elective 3 – Year 4, Semester 2)
Specialisation Units Year 3 *(please refer to Course Structure for list of specialisations offered)*:				
MCEN4013	Advanced Refrigeration System Design	√		SPUE-COMEC Computational Mechanics Specialisation
MCEN4001	Industrial Fluid Mechanic		√	SPUE-COMEC Computational Mechanics Specialisation
MCEN2003	Machine Dynamics	√		SPUC-ROBAU Robot Automation Specialisation
MXEN2003	Microcontroller Project	√		SPUC-ROBAU Robot Automation Specialisation
MXEN3000	Mechatronics Design Project		√	SPUC-ROBAU Robot Automation Specialisation
MCEN4002	Materials Engineering	√		Mechanical Flexible
Specialisation Units Year 4 *(please refer to Course Structure for list of specialisations offered)*:				
MCEN4008	Finite Element Analysis		√	SPUE-COMEC Computational Mechanics Specialisation
MCEN4011	Engineering Design Methodology	√		Mechanical Flexible
MCEN4009	Engineering Noise Control		√	Mechanical Flexible
PROGRAMME: MECHATRONIC ENGINEERING				
MXEN2003	Microcontroller Project	√		
MCEN2003	Machine Dynamics	√		
ELEN2000	Electrical Circuits	√		Shared unit with Electrical and Electronic Engineering
CMPE2001	Foundations of Digital Design	√		Shared unit with Electrical and Electronic Engineering

UNIT CODE	UNIT TITLE	SEM 1, 2025	SEM 2, 2025	REMARKS
COMP1002	Data Structures and Algorithms		√	Shared unit with BTECH, B-COMP
ETEN2000	Signals and Systems		√	Shared unit with Electrical and Electronic Engineering
MXEN3000	Mechatronics Design Project		√	
ENGR2001	Ethics and Sustainability in Engineering		√	
DEPARTMENT: APPLIED SCIENCES HEAD OF DEPARTMENT: PROF. M.V. PRASANNA				
PROGRAMME: APPLIED GEOLOGY				
NPSC1003	Integrating Indigenous Science and STEM	√		Shared unit with Bachelor of Computing
SPAT1007	Fundamentals of Geographic Information Systems	√		
GEOL1008	Dynamic Earth	√		
MATH1013	Introductory Mathematics	√		
GEOL2008	Field Geology Techniques	√		
GEOL2003	Mineralogy and Geochemistry	√		
GEOP2006	Introduction to Geophysical Exploration Methods	√		
GEOL2007	Structural Geology	√		
GEOL3012	Basin Dynamics	√		
ERTH3001	Climate and the Biosphere	√		
GEOL3009	Field Studies of Sedimentary Basins	√		
GEOL3003	Hydrogeology and Engineering Geology	√		
COMP1005	Fundamentals of Programming	√	√	Shared unit with Engineering First Year
GEOL1007	Planetary Science		√	
GEOL1005	Fundamentals of Geology		√	
CHEM1003	Introduction to Chemistry		√	
GEOL2009	Geological Field Mapping		√	
GEOL2011	Petrology		√	
GEOL2004	Sedimentology and Stratigraphy		√	
ERTH2000	Earth Resources and Sustainability		√	
GEOL3001	Tectonics and the Dynamic Earth		√	
PEEN3000	Formation Evaluation		√	Shared unit with Petroleum Engineering
GEOL3008	Environmental Geoscience		√	
GEOL3006	Geoscience Project	√	√	
ERTH4001	Geoscience Honours Dissertation	√	√	For Honours Students Only
ERTH4003	Geoscience Honours Dissertation Preparation		√	For Honours Students Only
GEOL4001	Geoscience Analytical Techniques	√		For Honours Students Only
ERTH4002	Geoscience Professional Practice	√		For Honours Students Only

Note for Revision 01:

Year 3 specialisation (Chemical Engineering) SPUE-TRENT Transitional Energy Technologies Specialisation – CHEN4018 Natural Gas Processing is only offered in Semester 1, 2025.