

FACULTY OF ENGINEERING AND SCIENCE

Units Offered – Semesters 1 & 2, 2026

(Undergraduate Programme)

(Rev.05 – changes are highlighted in yellow and/or refer to last page for revision note)

Date: Monday, January 19, 2026

UNIT CODE	UNIT TITLE	SEM 1, 2026	SEM 2, 2026	REMARKS
MINU-ENGFL Engineering Flexible Minor				
XINO3004	Science and Engineering International Experience 1		Summer Period 2026	January – February 2026
DEPARTMENT: ENGINEERING FIRST YEAR				
HEAD OF DEPARTMENT: IR. DR TAN YEE YONG				
COMP1005	Fundamentals of Programming	✓	✓	
ELEN1000	Electrical Systems	✓	✓	
INDE1001	Engineering Foundations: Principles, Design and Communication	✓	✓	
MATH1019	Linear Algebra and Statistics for Engineers	✓	✓	
MATH1020	Calculus for Engineers	✓	✓	
MCEN1000	Engineering Mechanics	✓	✓	
PRRE1003	Resources, Processes and Materials Engineering	✓	✓	
BLDG1004	Introduction to Management in Construction	✓		Optional Unit
CHEM1000	Principles and Processes in Chemistry	✓	✓	Optional Unit
CMPE1000	Hardware Fundamentals	✓		Optional Unit
ELEN1002	Sustainability and Renewable Energy	✓	✓	Optional Unit
GEOL1007	Planetary Science		✓	Optional Unit
GEOL1008	Dynamic Earth	✓		Optional Unit
ISAD1000	Introduction to Software Engineering	✓		Optional Unit
SPAT1007	Fundamentals of Geographic Information Systems	✓		Optional Unit
GEOL1005	Fundamentals of Geology		✓	Optional Unit
ENGR2002	Introduction to Energy Engineering		✓	Optional Unit
DEPARTMENT: CHEMICAL AND ENERGY ENGINEERING				
HEAD OF DEPARTMENT: IR. TS. PROFESSOR STEPHANIE CHAN YEN SAN				
PROGRAMME: CHEMICAL ENGINEERING				
CHEM1000	Principles and Processes in Chemistry	✓	✓	
CHEM1002	Reactivity and Function in Chemistry	✓	✓	
CHEN2000	Mass and Energy Balances	✓	✓	
CHEN2001	Thermodynamics		✓	
CHEN2002	Process Heat Transfer	✓		
CHEN2003	Process Mass Transfer		✓	
CHEN2004	Process Simulation and Data Analytics		✓	
CHEN3001	Computational Transport Phenomena	✓	✓	
CHEN3003	Process Synthesis and Design	✓		
CHEN3005	Process Instrumentation and Control		✓	
CHEN3009	Fluid and Particle Processes	✓		
CHEN3010	Reaction Engineering	✓		
CHEN4001	Process Safety and Risk Management	✓		
CHEN4012	Advanced Unit Operations	✓		
CHEN4015	Chemical Engineering Design Project		✓	
CHEN4016	Engineering Economics, Management and Sustainability		✓	
ENGR2000	Fluid Mechanics	✓		Common Engineering Unit
ENGR4000	Engineering Industry Research Project 1	✓	✓	
ENGR4001	Engineering Industry Research Project 2	✓	✓	
Specialisation Units Year 3 (please refer to Course Structure for list of specialisations offered):				
CHEN3012	Materials Selection and Corrosion	✓		SPU-E-ADMPR Advanced Materials and Processing Specialisation

UNIT CODE	UNIT TITLE	SEM 1, 2026	SEM 2, 2026	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
CHEN4017	Bioprocess Engineering		✓	SPUE-TRENT Transitional Energy Technologies Specialisation
CHEN4020	Carbon Management	✓		SPUE-TRENT Transitional Energy Technologies 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):

CHEN4003	Advanced Process Integration	✓		SPUE-ADMPR Advanced Materials and Processing Specialisation
CHEN4010	Advanced Thermodynamics and Reactor Engineering		✓	SPUE-ADMPR Advanced Materials and Processing Specialisation
CHEN4019	Electrochemical Energy Conversion and Storage		✓	SPUE-TRENT Transitional Energy Technologies 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
PRRE4007	Hydrogen Energy	✓		SPUE-TRENT Transitional Energy Technologies Specialisation

PROGRAMME: ENERGY ENGINEERING

CHEN2000	Mass and Energy Balances	✓		Shared unit with Chemical Engineering
CHEN2001	Thermodynamics		✓	Shared unit with Chemical Engineering
CHEN2002	Process Heat Transfer	✓		Shared unit with Chemical Engineering
ELEN2000	Electrical Circuits	✓		Shared unit with Electrical and Electronic Engineering
ENGR2000	Fluid Mechanics	✓		Common Engineering Unit
ENGR2002	Introduction to Energy Engineering		✓	
ENGR2003	Sustainable Energy Systems Engineering		✓	
MCEN2007	Mechanics for Energy Engineering		✓	
ELEN3004	Renewable Energy Principles	✓		Shared unit with Electrical and Electronic Engineering
ENGR3006	Energy Conversion and Sustainable Management	✓		
PRRE4007	Hydrogen Energy	✓		
ECON3008	Energy Economics, Management & Markets		✓	
ENGR3002	Energy Storage		✓	
ENGR3005	Energy Transport		✓	

Specialisation Units Year 3 (please refer to Course Structure for list of specialisations offered):

CHEN3012	Materials Selection and Corrosion	✓		SPUE-ENCOT Energy Conversion Technologies Specialisation; SPUE-LCATR Low Carbon Transition Specialisation
ENGR3003	Porous Media Characterisation	✓		SPUE-SSENR Subsurface Energy Specialisation

PROGRAMME: PETROLEUM ENGINEERING

ENGR4000	Engineering Industry Research Project 1	✓		
ENGR4001	Engineering Industry Research Project 2	✓		

DEPARTMENT: CIVIL AND CONSTRUCTION ENGINEERING

HEAD OF DEPARTMENT: IR. ASSOCIATE PROF. DR WONG KWONG SOON

PROGRAMME: CIVIL AND CONSTRUCTION ENGINEERING

UNIT CODE	UNIT TITLE	SEM 1, 2026	SEM 2, 2026	REMARKS
CSEN2000	Civil Engineering Construction Materials	✓		
CSEN3000	Civil Engineering Project and Cost Management		✓	
CSEN3002	Structural Actions and Steel Design	✓		
CSEN3003	Reinforced Concrete Design		✓	
CSEN4002	Integrated Design and Construction		✓	
CSEN4003	Civil Engineering Practices, Quality and Legislation	✓		
CVEN2000	Civil Engineering Drawing and Surveying	✓		
CVEN2001	Water and Environmental Resources		✓	
CVEN3002	Hydraulics and Hydrology		✓	
CVEN4003	Civil and Construction Engineering Research Project 1	✓	✓	
CVEN4004	Civil and Construction Engineering Research Project 2	✓	✓	
ENGR2000	Fluid Mechanics	✓		Common Engineering Unit
GEOT2000	Principles of Geomechanics		✓	
GEOT3002	Geotechnical Engineering Analysis	✓		
GEOT4003	Design of Foundations		✓	
STEN2004	Structural Mechanics		✓	
STEN2005	Structural Analysis of Determinate Structures	✓		
STEN2006	Structural Analysis of Indeterminate Structures		✓	
STEN4003	Integrated Structural Design	✓		
TREN3001	Transportation Engineering and Earthworks	✓		

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
CHEN2000	Mass and Energy Balances	✓		SPUC-PROEN Process Engineering Specialisation <i>(Specialisation offered by Department Chemical and Energy Engineering)</i>
CHEN2004	Process Simulation and Data Analytics		✓	SPUC-PROEN Process Engineering Specialisation <i>(Specialisation offered by Department Chemical and Energy Engineering)</i>
ENEN3009	Water and Environmental Engineering		✓	SPUE-INFST Infrastructure Specialisation
ENEN4014	Sustainable Urban Management and Planning		✓	SPUC-SUENV Sustainable Environment Specialisation
MCEN2002	Fundamentals of Mechanical Design		✓	SPUC-MEDVB Mechanical Dynamics and Vibration Specialisation <i>(Specialisation offered by Department Mechanical and Mechatronic Engineering)</i>
MCEN2003	Machine Dynamics	✓		SPUC-MEDVB Mechanical Dynamics and Vibration Specialisation <i>(Specialisation offered by Department Mechanical and Mechatronic Engineering)</i>
MXEN2003	Microcontroller Project	✓		SPUC-ROBAU Robot Automation Specialisation <i>(Specialisation offered by Department Mechanical and Mechatronic Engineering)</i>
MXEN3000	Mechatronics Design Project		✓	SPUC-ROBAU Robot Automation Specialisation <i>(Specialisation offered by Department Mechanical and Mechatronic Engineering)</i>
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
STEN4005	Advanced Concrete Design and Construction		✓	SPUE-INFST Infrastructure Specialisation
TREN4002	Traffic and Road Pavement Engineering		✓	SPUE-CONEN Construction Engineering Specialisation

UNIT CODE	UNIT TITLE	SEM 1, 2026	SEM 2, 2026	REMARKS
Specialisation Units Year 4 (please refer to Course Structure for list of specialisations offered):				
BLDG2023	Specialised Construction	✓		SPUE-CONEN Construction Engineering Specialisation
CHEN3009	Fluid and Particle Processes	✓		SPUC-PROEN Process Engineering Specialisation <i>(Specialisation offered by Department Chemical and Energy Engineering)</i>
CHEN4001	Process Safety and Risk Management		✓	SPUC-PROEN Process Engineering Specialisation <i>(Specialisation offered by Department Chemical and Energy Engineering)</i>
CHEN4020	Carbon Management	✓		SPUC-SUENV Sustainable Environment Specialisation
ENEN4013	Environmental, Social and Governance		✓	SPUC-SUENV Sustainable Environment Specialisation
GEOT4004	Applied Analysis in Geotechnical Engineering	✓		SPUE-CONEN Construction Engineering Specialisation; SPUE-INFST Infrastructure Specialisation
STEN4004	Advanced Structural Modelling	✓		SPUE-STENG Structural Engineering Specialisation
STEN4005	Advanced Concrete Design and Construction		✓	SPUE-CONEN Construction Engineering Specialisation; SPUE-STENG Structural Engineering Specialisation
TREN4002	Traffic and Road Pavement Engineering		✓	SPUE-INFST Infrastructure Specialisation
ICTE4001	Introduction to Autonomous Robots		✓	SPUC-ROBAU Robot Automation Specialisation <i>(Specialisation offered by Department Mechanical and Mechatronic Engineering)</i>
MCEN3009	Linear Systems and Vibrations	✓		SPUC-MEDVB Mechanical Dynamics and Vibration Specialisation <i>(Specialisation offered by Department Mechanical and Mechatronic Engineering)</i>
MCEN4019	Automatic Control Systems		✓	SPUC-MEDVB Mechanical Dynamics and Vibration Specialisation <i>(Specialisation offered by Department Mechanical and Mechatronic Engineering)</i>
MXEN3005	Robot Manipulation Project	✓		SPUC-ROBAU Robot Automation Specialisation <i>(Specialisation offered by Department Mechanical and Mechatronic Engineering)</i>
PROGRAMME: ENVIRONMENTAL ENGINEERING				
CVEN3002	Hydraulics and Hydrology		✓	Shared unit with Civil and Construction Engineering
ENGR2000	Fluid Mechanics	✓		Common Engineering Unit
ENEN2001	Solid and Hazardous Waste Management		✓	
ENEN2002	Energy Management and Climate Change	✓		
ENEN2003	Wastewater Treatment Principles and Design		✓	
ENEN2004	Water Resource Management and Treatment Principles	✓		
ENEN3000	Aerial Emissions and Abatement		✓	
ENEN3001	Green Engineering Principles and Applications	✓		
ENEN4003	Environmental Integrated Design Project		✓	
ENEN4006	Environmental Engineering Research Project 1	✓	✓	
ENEN4007	Environmental Engineering Research Project 2	✓	✓	
ENEN4011	Environmental Engineering Design and Principles	✓		
ENST2005	Environmental Chemistry and Microbiology	✓		
ENST2006	Environmental Monitoring and Analysis		✓	
ENST3000	Environmental Impact Assessment	✓		
GEOT2000	Principles of Geomechanics		✓	Shared unit with Civil and Construction Engineering
MCEN3007	Exposure to Professional Engineering Practice		✓	Shared unit with Mechanical Engineering and Mechatronic Engineering
MGMT3000	Engineering Management and Professional Practice		✓	Shared unit with Electrical and Electronic Engineering
Specialisation Units Year 3 (please refer to Course Structure for list of specialisations offered):				

UNIT CODE	UNIT TITLE	SEM 1, 2026	SEM 2, 2026	REMARKS
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)
CSEN2000	Civil Engineering Construction Materials	✓		SPUC-CIVEN Civil Engineering Specialisation
ENEN4014	Sustainable Urban Management and Planning		✓	SPUC-SUENV Sustainable Environment Specialisation
MXEN2003	Microcontroller Project	✓		SPUC-ROBAU Robot Automation Specialisation (Specialisation offered by Department Mechanical and Mechatronic Engineering)
MXEN3000	Mechatronics Design Project		✓	SPUC-ROBAU Robot Automation Specialisation (Specialisation offered by Department Mechanical and Mechatronic Engineering)
STEN2004	Structural Mechanics		✓	SPUC-CIVEN Civil Engineering Specialisation
STEN2005	Structural Analysis of Determinate Structures	✓		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
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)
CSEN3000	Civil Engineering Project and Cost Management		✓	SPUC-CIVEN Civil Engineering Specialisation
ENEN4013	Environmental, Social and Governance		✓	SPUC-SUENV Sustainable Environment Specialisation
ICTE4001	Introduction to Autonomous Robots		✓	SPUC-ROBAU Robot Automation Specialisation (Specialisation offered by Department Mechanical and Mechatronic Engineering)
MXEN3005	Robot Manipulation Project	✓		SPUC-ROBAU Robot Automation Specialisation (Specialisation offered by Department Mechanical and Mechatronic Engineering)
TREN3001	Transportation Engineering and Earthworks	✓		SPUC-CIVEN Civil Engineering Specialisation

DEPARTMENT: ELECTRICAL AND COMPUTER ENGINEERING

HEAD OF DEPARTMENT: DR. CHEW ING MING

PROGRAMME: BACHELOR OF TECHNOLOGY (COMPUTER SYSTEMS AND NETWORKING)				
CMPE1000	Hardware Fundamentals	✓		
CMPE2000	Data Communications and Network Management	✓		
CMPE2002	Requirements Engineering		✓	Elective
CMPE2003	Microcomputers		✓	
CMPE3001	Embedded Systems Engineering		✓	
CMPE3002	Computer Technology Project 1	✓	✓	
CMPE3003	Computer Technology Project 2	✓	✓	
CMPE3004	Network Engineering		✓	
CNCO3000	Distributed Networks	✓		
COMP1000	Unix and C Programming		✓	
COMP1002	Data Structures and Algorithms	✓	✓	
COMP1007	Programming Design and Implementation	✓	✓	
COMP2000	Computer Systems		✓	
COMP2003	Object Oriented Software Engineering	✓		Elective
COMP2006	Operating Systems	✓		
COMP2008	Mobile Application Development		✓	Optional unit
COMP3001	Design and Analysis of Algorithms	✓		Optional unit
COMT3002	Internet of Things Design and Communications	✓		
ELEN2002	Transmission and Interface Design	✓		

UNIT CODE	UNIT TITLE	SEM 1, 2026	SEM 2, 2026	REMARKS
ETEN1000	Electronics		✓	
ICTE3002	Human Computer Interface	✓		Optional unit
INDE1001	Engineering Foundations: Principles, Design and Communication	✓	✓	Shared Unit with Engineering First Year
ISAD1000	Introduction to Software Engineering	✓		Optional unit
ISEC1000	Cyber Security Concepts		✓	Elective
ISEC2000	Fundamental Concepts of Cryptography	✓		Optional unit
ISEC2001	Fundamental Concepts of Data Security	✓		Optional unit; Elective
ISEC3004	Cyber Crime and Security Enhanced Programming		✓	Optional unit
ISEC3005	Cyber Security – Intrusion Detection System and Incident Handling		✓	Optional unit
COMP3010	Machine Learning	✓		Optional unit
CNCO3003	Cloud Computing	✓		Optional unit
ISEC3002	Penetration Testing and Defence		✓	Optional unit
ISYS2014	Database Systems		✓	
MATH1019	Linear Algebra and Statistics for Engineers	✓	✓	Shared Unit with Engineering First Year
MGMT3000	Engineering Management and Professional Practice		✓	

PROGRAMME: ELECTRICAL AND ELECTRONIC ENGINEERING

CMPE2001	Foundations of Digital Design	✓		
CMPE2003	Microcomputers		✓	
COMT3000	Communications Engineering		✓	
EEET4000	Engineering Research Project 1	✓	✓	
EEET4001	Engineering Research Project 2	✓	✓	
EEET4002	Integrated Design Project	✓		
ELEN2000	Electrical Circuits	✓		
ELEN2005	Electrical Machines		✓	
ELEN3001	Power System Analysis		✓	
ELEN3002	Fundamentals of Engineering Electromagnetics		✓	
ELEN3003	Power Grid Infrastructure and Protection Systems	✓		
ELEN3004	Renewable Energy Principles		✓	
ELEN4007	Electrical Machines Drives and Control		✓	
ETEN2000	Signals and Systems		✓	
ETEN2001	Electronic Fundamentals	✓		
ETEN3003	Power Electronics	✓		
ETEN4001	Industrial Automated Systems	✓		
MATH2009	Calculus 2	✓		
MGMT3000	Engineering Management and Professional Practice		✓	
MXEN3004	Dynamic Modelling and Control	✓		

Specialisation Units Year 3 (please refer to Course Structure for list of specialisations offered):

COMP1002	Data Structures and Algorithms	✓		SPUC-AIMLN Artificial Intelligence and Machine Learning Specialisation
ENEN4014	Sustainable Urban Management and Planning		✓	SPUC-SUENV Sustainable Environment Specialisation
ENGR2000	Fluid Mechanics	✓		SPUC-MESYS Mechanical Systems Specialisation (Specialisation offered by Department Mechanical and Mechatronic Engineering)
ISYS2014	Database Systems		✓	SPUC-AIMLN Artificial Intelligence and Machine Learning Specialisation
MCEN2001	Fundamentals of Thermodynamics		✓	SPUC-MESYS Mechanical Systems Specialisation (Specialisation offered by Department Mechanical and Mechatronic Engineering)
MXEN2003	Microcontroller Project	✓		SPUC-ROBAU Robot Automation Specialisation (Specialisation offered by Department Mechanical and Mechatronic Engineering)
MXEN3000	Mechatronics Design Project		✓	SPUC-ROBAU Robot Automation Specialisation (Specialisation offered by Department Mechanical and Mechatronic Engineering)
ISEC1000	Cyber Security Concepts		✓	SPUC-CYBSE Cybersecurity Specialisation

UNIT CODE	UNIT TITLE	SEM 1, 2026	SEM 2, 2026	REMARKS
ISEC2001	Fundamental Concepts of Data Security	✓		SPUC-CYBSE Cybersecurity Specialisation
Specialisation Units Year 4 (please refer to Course Structure for list of specialisations offered):				
CHEN4020	Carbon Management	✓		SPUC-SUENV Sustainable Environment Specialisation (Specialisation offered by Department Civil and Construction Engineering)
COMP3009	Data Mining		✓	SPUC-AIMLN Artificial Intelligence and Machine Learning Specialisation
COMP3010	Machine Learning	✓		SPUC-AIMLN Artificial Intelligence and Machine Learning Specialisation
ENEN4013	Environmental, Social and Governance		✓	SPUC-SUENV Sustainable Environment Specialisation (Specialisation offered by Department Civil and Construction Engineering)
ICTE4001	Introduction to Autonomous Robots		✓	SPUC-ROBAU Robot Automation Specialisation (Specialisation offered by Department Mechanical and Mechatronic Engineering)
ISEC3005	Cyber Security-Intrusion Detection System and Incident Handling		✓	SPUC-CYBSE Cybersecurity Specialisation
MCEN3002	Applied Fluid Mechanics		✓	SPUC-MESYS Mechanical Systems Specialisation (Specialisation offered by Department Mechanical and Mechatronic Engineering)
MCEN4018	Electromechanical Energy Systems	✓		SPUC-MESYS Mechanical Systems Specialisation (Specialisation offered by Department Mechanical and Mechatronic Engineering)
MXEN3005	Robot Manipulation Project	✓		SPUC-ROBAU Robot Automation Specialisation (Specialisation offered by Department Mechanical and Mechatronic Engineering)
PROGRAMME: BACHELOR OF COMPUTING – SOFTWARE ENGINEERING MAJOR				
CMPE2002	Requirements Engineering		✓	
CMPE3008	Software Engineering Testing	✓		
CNCO2000	Computer Communications	✓	✓	
CNCO3003	Cloud Computing	✓		Elective Unit Y3 S1 (Normal Intake), Y3 S2 (Mid-Year Intake)
COMP1000	Unix and C Programming	✓	✓	
COMP1002	Data Structures and Algorithms	✓	✓	
COMP1006	Foundations of Computer Science		✓	Compulsory Elective Y3 S2 (Normal Intake), Y2 S1 (Mid-Year)
COMP1007	Programming Design and Implementation	✓	✓	
COMP2000	Computer Systems		✓	Elective Unit Y3 S2 (Normal Intake); Y1 S1 (Compulsory Elective: Mid-Year)
COMP2002	Unix Systems Programming	✓		Elective Unit Y3 S1 (Normal Intake), Y3 S2 (Mid-Year Intake)
COMP2003	Object Oriented Software Engineering	✓		
COMP2005	Computing Topics		✓	Elective Unit Y3 S2 (Normal Intake)
COMP2006	Operating Systems	✓		
COMP2008	Mobile Application Development		✓	
COMP3001	Design and Analysis of Algorithms	✓		
COMP3003	Software Architecture and Extensible Design		✓	
COMP3008	Distributed Computing		✓	
COMP3010	Machine Learning	✓		Elective Unit Y3 S1 (Normal Intake), Y3 S2 (Mid-Year Intake)
ICTE3002	Human Computer Interface	✓		
ISAD1000	Introduction to Software Engineering	✓		
ISEC1000	Cyber Security Concepts		✓	Elective Unit Y3 S2 (Normal Intake)

UNIT CODE	UNIT TITLE	SEM 1, 2026	SEM 2, 2026	REMARKS
ISEC2000	Fundamental Concepts of Cryptography	✓		Elective Unit Y3 S1 (Normal Intake), Y3 S2 (Mid-Year Intake)
ISEC2001	Fundamental Concepts of Data Security	✓		
ISAD3000	Capstone Computing Project 1	✓	✓	
ISAD3001	Capstone Computing Project 2	✓	✓	
ISEC3004	Cyber Crime and Security Enhanced Programming		✓	
ISEC3005	Cyber Security- Intrusion Detection System and Incident Handling		✓	Elective Unit Y3 S2 (Normal Intake)
ISYS2014	Database Systems		✓	
MATH1019	Linear Algebra and Statistics for Engineers	✓	✓	Shared Unit with Engineering First Year
NPSC1003	Integrating Indigenous Science and STEM	✓		
EIT301	Engineering Industrial Training	Year 2 Summer Semester (December)		

PROGRAMME: BACHELOR OF COMPUTING – CYBER SECURITY MAJOR

CMPE2002	Requirements Engineering		✓	Elective Y2 S1 (Mid-Year) / Y2 S2, Y3 S2 (Normal Intake)
CMPE3008	Software Engineering Testing	✓		Elective Y3 S1 (Normal Intake)
CNCO2000	Computer Communications	✓	✓	
CNCO3003	Cloud Computing	✓		
COMP1000	Unix and C Programming	✓	✓	
COMP1002	Data Structures and Algorithms	✓	✓	
COMP1007	Programming Design and Implementation	✓	✓	
COMP2000	Computer Systems		✓	Elective Y2 S1 (Mid-Year); Y3 Y2 S2, S2 (Normal Intake)
COMP2002	Unix Systems Programming	✓		
COMP2003	Object Oriented Software Engineering	✓		Elective Y3 S1 (Normal Intake)
COMP2005	Computing Topics		✓	
COMP2006	Operating Systems	✓		
COMP2008	Mobile Application Development		✓	Elective Y2 S1 (Mid-Year) / Y2 S2, Y3 S2 (Normal Intake)
COMP3001	Design and Analysis of Algorithms	✓		Elective Y3 S1 (Normal Intake)
COMP3003	Software Architecture and Extensible Design		✓	Elective Y2 S2, Y3 S2 (Normal Intake)
COMP3010	Machine Learning	✓		
ICTE3002	Human Computer Interface	✓		Elective Y3 S1 (Normal Intake)
ISAD1000	Introduction to Software Engineering	✓		
ISAD3000	Capstone Computing Project 1	✓	✓	
ISAD3001	Capstone Computing Project 2	✓	✓	
ISEC1000	Cyber Security Concepts		✓	
ISEC2000	Fundamental Concepts of Cryptography	✓		
ISEC2001	Fundamental Concepts of Data Security	✓		
ISEC3002	Penetration Testing and Defence		✓	
ISEC3004	Cyber Crime and Security Enhanced Programming		✓	
ISEC3005	Cyber Security- Intrusion Detection System and Incident Handling		✓	
ISYS2014	Database Systems		✓	
MATH1019	Linear Algebra and Statistics for Engineers	✓	✓	Shared Unit with Engineering First Year
NPSC1003	Integrating Indigenous Science and STEM	✓		
EIT301	Engineering Industrial Training	Year 2 Summer Semester		

DEPARTMENT: MECHANICAL AND MECHATRONIC ENGINEERING
HEAD OF DEPARTMENT: ASSOCIATE PROF. DR MOOLA MOHAN REDDY

PROGRAMME: MECHANICAL ENGINEERING				
ENGR2000	Fluid Mechanics	✓		Common Engineering Unit; Also offered in SPUC-MESYS Mechanical Systems Specialisation
ENGR2001	Ethics and Sustainability in Engineering		✓	
MCEN2000	Fundamentals of Strength of Materials	✓		
MCEN2001	Fundamentals of Thermodynamics		✓	Also offered in SPUC-MESYS Mechanical Systems Specialisation
MCEN2002	Fundamentals of Mechanical Design		✓	Also offered in SPUC-MEDVB Mechanical Dynamics and Vibration Specialisation
MCEN2003	Machine Dynamics	✓		Also offered in SPUC-MEDVB Mechanical Dynamics and Vibration Specialisation
MCEN2004	Manufacturing Processes		✓	

UNIT CODE	UNIT TITLE	SEM 1, 2026	SEM 2, 2026	REMARKS
MCEN2006	Computer Aided Drawing and Engineering Modelling	✓		
MCEN3001	Machine Design		✓	
MCEN3002	Applied Fluid Mechanics		✓	Also offered in SPUC-MESYS Mechanical Systems Specialisation
MCEN3004	Advanced Strength of Materials	✓		
MCEN3007	Exposure to Professional Engineering Practice		✓	
MCEN3008	Fundamentals of Heat Transfer	✓		
MCEN3009	Linear Systems and Vibrations	✓		Also offered in SPUC-MEDVB Mechanical Dynamics and Vibration Specialisation
MCEN4005	Mechanical Engineering Research Project 1	✓	✓	
MCEN4006	Mechanical Engineering Research Project 2	✓	✓	
MCEN4015	Integrated Mechanical Design	✓		
MCEN4016	Professional Engineering Management and Practice		✓	
MCEN4018	Electromechanical Energy Systems	✓		
MCEN4019	Automatic Control Systems		✓	Also offered in SPUC-MEDVB Mechanical Dynamics and Vibration Specialisation

Specialisation Units Year 3 (please refer to Course Structure for list of specialisations offered):

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)
COMP1002	Data Structures and Algorithms	✓		SPUC-AIMLN Artificial Intelligence and Machine Learning Specialisation (Specialisation offered by Department Electrical and Computer Engineering)
CSEN2000	Civil Engineering Construction Materials	✓		SPUC-CIVEN Civil Engineering Specialisation (Specialisation offered by Department Civil and Construction Engineering)
ENEN4014	Sustainable Urban Management and Planning		✓	SPUC-SUENV Sustainable Environment Specialisation (Specialisation offered by Department Civil and Construction Engineering)
GEOT2000	Principles of Geomechanics		✓	SPUC-CIVEN Civil Engineering Specialisation (Specialisation offered by Department Civil and Construction Engineering)
ISEC1000	Cyber Security Concepts		✓	SPUC-CYBSE Cybersecurity Specialisation (Specialisation offered by Department Electrical and Computer Engineering)
ISEC2001	Fundamental Concepts of Data Security	✓		SPUC-CYBSE Cybersecurity Specialisation (Specialisation offered by Department Electrical and Computer Engineering)
ISYS2014	Database Systems		✓	SPUC-AIMLN Artificial Intelligence and Machine Learning Specialisation (Specialisation offered by Department Electrical and Computer Engineering)
MCEN4001	Industrial Fluid Mechanic		✓	SPUE-COME Computational Mechanics Specialisation
MCEN4013	Advanced Refrigeration System Design	✓		SPUE-COME Computational Mechanics Specialisation
MXEN2003	Microcontroller Project	✓		SPUC-ROBAU Robot Automation Specialisation
MXEN3000	Mechatronics Design Project		✓	SPUC-ROBAU Robot Automation Specialisation
STEN2005	Structural Analysis of Determinate Structures	✓		SPUC-CIVEN Civil Engineering Specialisation (Specialisation offered by Department Civil and Construction Engineering)

Specialisation Units Year 4 (please refer to Course Structure for list of specialisations offered):

CHEN3009	Fluid and Particle Processes	✓		SPUC-PROEN Process Engineering Specialisation (Specialisation offered by Department Chemical and Energy Engineering)
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UNIT CODE	UNIT TITLE	SEM 1, 2026	SEM 2, 2026	REMARKS
CHEN4001	Process Safety and Risk Management		✓	SPUC-PROEN Process Engineering Specialisation (Specialisation offered by Department Chemical and Energy Engineering)
CHEN4020	Carbon Management	✓		SPUC-SUENV Sustainable Environment Specialisation (Specialisation offered by Department Civil and Construction Engineering)
CSEN3000	Civil Engineering Project and Cost Management		✓	SPUC-CIVEN Civil Engineering Specialisation (Specialisation offered by Department Civil and Construction Engineering)
COMP3009	Data Mining		✓	SPUC-AIMLN Artificial Intelligence and Machine Learning Specialisation (Specialisation offered by Department Electrical and Computer Engineering)
COMP3010	Machine Learning	✓		SPUC-AIMLN Artificial Intelligence and Machine Learning Specialisation (Specialisation offered by Department Electrical and Computer Engineering)
COMT3002	Internet of Things Design and Communications	✓		SPUC-CYBSE Cybersecurity Specialisation (Specialisation offered by Department Electrical and Computer Engineering)
ENEN4013	Environmental, Social and Governance		✓	SPUC-SUENV Sustainable Environment Specialisation (Specialisation offered by Department Civil and Construction Engineering)
ISEC3005	Cyber Security - Intrusion Detection System and Incident Handling		✓	SPUC-CYBSE Cybersecurity Specialisation (Specialisation offered by Department Electrical and Computer Engineering)
MCEN4020	Computational Fluid Dynamics and Heat Transfer	✓		SPUE-COME Computational Mechanics Specialisation
MCEN4008	Finite Element Analysis		✓	SPUE-COME Computational Mechanics Specialisation
MXEN3005	Robot Manipulation Project	✓		SPUC-ROBAU Robot Automation Specialisation
ICTE4001	Introduction to Autonomous Robots		✓	SPUC-ROBAU Robot Automation Specialisation
TREN3001	Transportation Engineering and Earthworks	✓		SPUC-CIVEN Civil Engineering Specialisation (Specialisation offered by Department Civil and Construction Engineering)
PROGRAMME: MECHATRONIC ENGINEERING				
CMPE2001	Foundations of Digital Design	✓		Shared unit with Electrical and Electronic Engineering
COMP1002	Data Structures and Algorithms		✓	Shared unit with BTECH, B-COMP; Also offered in SPUC-AIMLN Artificial Intelligence and Machine Learning Specialisation
CMPE3001	Embedded Systems Engineering		✓	Shared unit with BTECH
ELEN2000	Electrical Circuits	✓		Shared unit with Electrical and Electronic Engineering
ENGR2001	Ethics and Sustainability in Engineering		✓	
ETEN2000	Signals and Systems		✓	Shared unit with Electrical and Electronic Engineering
ICTE4001	Introduction to Autonomous Robots		✓	
MCEN2003	Machine Dynamics	✓		Also offered in SPUC-ROBAU Robot Automation Specialisation; SPUC-MEDVB Mechanical Dynamics and Vibration Specialisation
MCEN2006	Computer Aided Drawing and Engineering Modelling	✓		
MCEN3007	Exposure to Professional Engineering Practice		✓	
MXEN2003	Microcontroller Project	✓		Also offered in SPUC-ROBAU Robot Automation Specialisation
MXEN3000	Mechatronics Design Project		✓	Also offered in SPUC-ROBAU Robot Automation Specialisation
MXEN3005	Robot Manipulation Project	✓		

UNIT CODE	UNIT TITLE	SEM 1, 2026	SEM 2, 2026	REMARKS
Specialisation Units Year 3 (please refer to Course Structure for list of specialisations offered):				
CVEN2001	Water and Environmental Resources		✓	SPUC-CIVEN Civil Engineering Specialisation (Specialisation offered by Department Civil and Construction Engineering)
ENEN4014	Sustainable Urban Management and Planning		✓	SPUC-SUENV Sustainable Environment Specialisation (Specialisation offered by Department Civil and Construction Engineering)
GEOT2000	Principles of Geomechanics		✓	SPUC-CIVEN Civil Engineering Specialisation (Specialisation offered by Department Civil and Construction Engineering)
ISEC1000	Cyber Security Concepts		✓	SPUC-CYBSE Cybersecurity Specialisation (Specialisation offered by Department Electrical and Computer Engineering)
ISYS2014	Database Systems		✓	SPUC-AIMLN Artificial Intelligence and Machine Learning Specialisation (Specialisation offered by Department Electrical and Computer Engineering)
MCEN2001	Fundamentals of Thermodynamics		✓	SPUC-MESYS Mechanical Systems Specialisation
MCEN2002	Fundamentals of Mechanical Design		✓	SPUC-MEDVB Mechanical Dynamics and Vibration Specialisation
ENGR2000	Fluid Mechanics	✓		SPUC-MESYS Mechanical Systems Specialisation (Common Engineering Unit)
CSEN2000	Civil Engineering Construction Materials	✓		SPUC-CIVEN Civil Engineering Specialisation (Specialisation offered by Department Civil and Construction Engineering)
STEN2005	Structural Analysis of Determinate Structures	✓		SPUC-CIVEN Civil Engineering Specialisation (Specialisation offered by Department Civil and Construction Engineering)
ISEC2001	Fundamental Concepts of Data Security	✓		SPUC-CYBSE Cybersecurity Specialisation (Specialisation offered by Department Electrical and Computer Engineering)

DEPARTMENT: APPLIED SCIENCES
HEAD OF DEPARTMENT: PROFESSOR M.V. PRASANNA

PROGRAMME: APPLIED GEOLOGY				
CHEM1003	Introduction to Chemistry		✓	
COMP1005	Fundamentals of Programming	✓	✓	Shared unit with Engineering First Year
ERTH2000	Earth Resources and Sustainability		✓	
ERTH3001	Climate and the Biosphere	✓		
GEOL1005	Fundamentals of Geology		✓	
GEOL1007	Planetary Science		✓	
GEOL1008	Dynamic Earth	✓		
GEOL2003	Mineralogy and Geochemistry	✓		
GEOL2004	Sedimentology and Stratigraphy		✓	
GEOL2007	Structural Geology	✓		
GEOL2008	Field Geology Techniques	✓		
GEOL2009	Geological Field Mapping		✓	
GEOL2011	Petrology		✓	
GEOL3001	Tectonics and the Dynamic Earth		✓	
GEOL3003	Hydrogeology and Engineering Geology	✓		
GEOL3006	Geoscience Project	✓	✓	
GEOL3008	Environmental Geoscience		✓	
GEOL3009	Field Studies of Sedimentary Basins	✓		
GEOL3012	Basin Dynamics	✓		
GEOP2006	Introduction to Geophysical Exploration Methods	✓		
MATH1013	Introductory Mathematics	✓		
NPSC1003	Integrating Indigenous Science and STEM	✓		Shared unit with Bachelor of Computing
PEEN3000	Formation Evaluation		✓	
SPAT1007	Fundamentals of Geographic Information Systems	✓		
ERTH4004	Earth and Planetary Sciences Honours Dissertation	✓	✓	Honours unit (students are expected to complete by Semester 2, 2026)

UNIT CODE	UNIT TITLE	SEM 1, 2026	SEM 2, 2026	REMARKS
ERTH4002	Geoscience Professional Practice	✓		Honours unit (students are expected to complete by Semester 2, 2026)
GEOL4001	Geoscience Analytical Techniques	✓		Honours unit (students are expected to complete by Semester 2, 2026)
PROGRAMME: GRADUATE CERTIFICATE IN GEOSPATIAL INTELLIGENCE				
SPAT5009	Applied Remote Sensing	✓		
SPAT5015	Drone Mapping & Applications	✓		
SPAT5006	Fundamentals of Geographic Information Systems	✓		
ERTH5002	Habitat and Landform Mapping	✓		
SPAT5008	Applied Geographic Information Systems (GIS)		✓	
SPAT5005	Digital Image Interpretation		✓	
SPAT5013	Spatial Database Systems		✓	
COMP5005	Fundamentals of Programming		✓	
PROGRAMME: GRADUATE DIPLOMA IN GEOSPATIAL INTELLIGENCE				
SPAT5009	Applied Remote Sensing	✓	✓	
SPAT5015	Drone Mapping & Applications	✓	✓	
SPAT5006	Fundamentals of Geographic Information Systems	✓	✓	
ERTH5002	Habitat and Landform Mapping	✓	✓	
SPAT5008	Applied Geographic Information Systems (GIS)	✓	✓	
SPAT5005	Digital Image Interpretation	✓	✓	
SPAT5013	Spatial Database Systems	✓	✓	
COMP5005	Fundamentals of Programming	✓	✓	

Note for Revision:

1. Amendment to the header row.