

FACULTY OF ENGINEERING AND SCIENCE, CURTIN UNIVERSITY MALAYSIA

Units Offered – Semesters 1 & 2, 2024

(Rev.08 – changes are highlighted in yellow and/or refer to last page for revision note)

(Undergraduate Programme)

DEPARTMENT	UNIT CODE	UNIT TITLE	SEM 1, 2024	SEM 2, 2024	REMARKS
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	√	√	
	ENGR1001	Engineering: Connecting Past, Present and Future	√	√	Optional Unit
	ELEN1002	Sustainability and Renewable Energy	√	√	Optional Unit
	BLAW1002	Markets and Legal Frameworks	Please refer to Faculty of Business		Optional Unit
	ECOM1000	Analytics for Decision Making	Please refer to Faculty of Business		Optional Unit
	MGMT1003	Strategic Career Design	Please refer to Faculty of Business		Optional Unit
	CHEMICAL & ENERGY ENGINEERING PROGRAMME: CHEMICAL ENGINEERING HEAD OF DEPARTMENT: PROF. IR. TS. STEPHANIE CHAN YEN SAN	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	√		
ENEN2000		Engineering Sustainable Development	√	√ *(No physical class. Online only)	Common Engineering Unit
ENGR4000		Engineering Industry Research Project 1	√	√	
ENGR4001		Engineering Industry Research Project 2	√	√	
CHEN4001		Process Safety and Risk Management	√		
CHEN4012		Advanced Unit Operations	√		
CHEN3006		Palm Oil and Oleochemical Process	√		Optional Unit; Normal and Mid-Year Intake
WSEN3001		Wastewater Treatment Processes	√		Optional Unit; Normal and Mid-Year Intake
CHEN4017		Bioprocess Engineering	√		Optional Unit; Normal and Mid-Year Intake
CHEN4018		Natural Gas Processing	√		Optional Unit; Normal and Mid-Year Intake
CHEN4010		Advanced Thermodynamics and Reactor Engineering		√	Optional Unit; Normal Intake
CHEN4003		Advanced Process Integration	√		Optional Unit; Mid-Year
CHEN2001		Thermodynamics		√	
CHEM1002	Reactivity and Function in Chemistry	√	√		
CHEN2003	Process Mass Transfer		√		

DEPARTMENT	UNIT CODE	UNIT TITLE	SEM 1, 2024	SEM 2, 2024	REMARKS
	CHEN2004	Process Simulation and Data Analytics		√	
	CHEN3000	Process Plant Engineering		√	
	CHEN3001	Computational Transport Phenomena		√	
	CHEN4016	Engineering Economics, Management and Sustainability		√	
	CHEN3005	Process Instrumentation and Control		√	
	CHEN3003	Process Synthesis and Design	√		
	CHEN3009	Fluid and Particle Processes	√		
	CHEN4015	Chemical Engineering Design Project		√	
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	√		
	STEN3003	Advanced Structural Analysis	√		
	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	√	√	
	CSEN4003	Civil Engineering Practices, Quality and Legislation	√		
	STEN4003	Integrated Structural Design	√		
	GEOT4002	Geotechnical Design and Construction	√		Optional Unit *(intake Semester 1, until 2022 only)
	STEN4004	Advanced Structural Modelling	√		Optional Unit *(intake Semester 1, until 2022 only)
	STEN2006	Structural Analysis of Indeterminate Structures		√	
	CVEN2001	Water and Environment Resources		√	
	STEN2004	Structural Mechanics		√	
	GEOT2000	Principles of Geomechanics		√	
	GEOT3003	Geotechnical Engineering for Foundations		√	
	CSEN3000	Civil Engineering Project and Cost Management		√	
	CVEN3002	Hydraulics and Hydrology		√	
	CSEN3003 <i>(Previous code: STEN3005)</i>	Reinforced Concrete Design		√	
	CSEN4002	Integrated Design and Construction		√	
	CSEN3002 <i>(CSEN3002 replaces STEN3004 Structural Actions and Steel Design)</i>	Structural Actions and Steel Design	√		
TREN4002	Traffic and Road Pavement Engineering		√	Optional Unit *(intake Semester 1, until 2022 only) / Specialisation	
STEN4005	Advanced Concrete Design and Construction		√	Optional Unit *(intake Semester 1, until 2022 only) / Specialisation	
ENVIRONMENTAL ENGINEERING	ENGR2000	Fluid Mechanics	√		Common Engineering Unit
	CHEM1000	Principles in Processes in Chemistry	√	√	Shared unit with Chemical Engineering
	ENEN3006	Hydraulics and Hydrogeology	√		
	ENEN3001	Green Engineering Principles and Applications	√		

DEPARTMENT	UNIT CODE	UNIT TITLE	SEM 1, 2024	SEM 2, 2024	REMARKS
HEAD OF DEPARTMENT: ASSOC. PROF. IR. DR WONG KWONG SOON	ENST3000	Environmental Impact Assessment	√		Students should complete 250 credits or equivalent prior to enrolling into this unit
	CHEN3009	Fluid and Particle Processes	√		Shared unit with Chemical Engineering
	ENEN4009	Environmental Engineering Design	√		
	ENEN4010	Socio-Economic Impacts of Engineering	√		
	CHEN4004	Computational Fluid Dynamics	√		Shared unit with Petroleum Engineering
	ENEN4006	Environmental Engineering Research Project 1	√	√	
	ENEN4007	Environmental Engineering Research Project 2	√	√	
	ENEN2001	Solid and Hazardous Waste Management		√	
	GEOT2000	Principles of Geomechanics		√	Shared unit with Civil and Construction Engineering
	ENST3003	Environmental Law and Regulations		√	
	ENEN3000	Aerial Emissions and Abatement		√	
	ENEN3005	Water Resources and Public Health		√	
	ENST2006	Environmental Monitoring and Analysis		√	
	ENST3006	Environmental Monitoring and Analysis		√	*(intake Semester 1, until 2022 only)
	ENEN4004	Geoenvironmental Engineering		√	
	ENEN4003	Environmental Integrated Design Project		√	
	ENEN4008	Environmental Considerations in Construction	√	√	Optional Unit; Normal and Mid-Year Intake *(intake Semester 1, until 2022 only)
	CHEN3006	Palm Oil and Oleochemical Process	√		Optional Unit; Normal and Mid-Year Intake; Shared unit with Chemical Engineering *(intake Semester 1, until 2022 only)
	WSEN3001	Wastewater Treatment Processes	√		Optional Unit; Normal and Mid-Year Intake; Shared unit with Chemical Engineering *(intake Semester 1, until 2022 only)
	ENST2005	Environmental Chemistry and Microbiology	√		New course structure
	ENEN2004	Water Resource Management and Treatment Principles	√		New course structure
	ENEN2002	Energy Management and Climate Change	√		New course structure
	ENST2006 / ENST3006	Environmental Monitoring and Analysis		√	New course structure (ENST3006 – 2022-2023 course structure)
ENEN2003	Wastewater Treatment Principles and Design		√	New course structure	
ELECTRICAL AND COMPUTER ENGINEERING HEAD OF DEPARTMENT: MR. TERENCE TAN	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
	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

DEPARTMENT	UNIT CODE	UNIT TITLE	SEM 1, 2024	SEM 2, 2024	REMARKS
	CMPE3002	Computer Technology Project 1	√	√	
	CMPE3003	Computer Technology Project 2	√	√	
	COMP2006	Operating Systems	√		
	CNCO3000	Distributed Networks	√		
	COMT3002	Wireless Data Networks	√		
	COMP1002	Data Structures and Algorithms	√	√	
	COMP2000	Computer Systems		√	
	ETEN1000	Electronics		√	
	ISYS2014	Database Systems		√	
	COMP1000	Unix and C Programming	√	√	Remark: For EE, COMP1000 is becoming under specification (only take in Y3). EE students only take this unit in S2
	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
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	√		
	ELEN4006	Smart and Micro Grids	√		
	EEET4001	Engineering Research Project 2	√	√	
	ELEN4001	Electric Power 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		√	
	CMPE2000	Data Communications and Network Management	√		

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	ENEN2000	Engineering Sustainable Development	√		Common Engineering unit
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		√	
	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 Engineering Concepts		√	
	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)
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	√	√	

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	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	√	√	
	ISYS2014	Database Systems		√	
	MATH1019	Linear Algebra and Statistics for Engineers	√	√	Shared Unit with Engineering First Year
	COMP2005	Computing Topics		√	
	ISEC1000	Cyber Security Concepts		√	
	ISEC3004	Cyber Crime and Security Enhanced Programming		√	
	ISEC3002	Penetration Testing and Defence		√	
	ISEC3005	Cyber Security- Intrusion Detection System and Incident Handling		√	
	COMP2003	Object Oriented Software Engineering	√		Elective Y3 S1 (Normal Intake)
	COMP3001	Design and Analysis of Algorithms	√		Elective Y3 S1 (Normal Intake)
	CMPE3008	Software Engineering Testing	√		Elective Y3 S1 (Normal Intake)
	ICTE3002	Human Computer Interface	√		Elective Y3 S1 (Normal Intake)
CMPE2002	Requirements Engineering		√	Elective Y2 S1 (Mid-Year) / Y2 S2; Y3 S2 (Normal Intake)	
COMP2000	Computer Systems		√	Elective Y2 S1 (Mid-Year) / Y2 S2; Y3 S2 (Normal Intake)	
COMP2008	Mobile Application Development		√	Elective Y2 S1 (Mid-Year) / Y2 S2; Y3 S2 (Normal Intake)	
COMP3003	Software Engineering Concepts		√	Elective Y2 S2; Y3 S2 (Normal Intake)	
MECHANICAL ENGINEERING	For second year students only (new students – 2024)				
	ENGR2000	Fluid Mechanics	√		Common Engineering Unit
	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		√	
	MCEN2005	Engineering Graphics	√		
	For third and final year students only				
	ENGR2000	Fluid Mechanics	√		
	MCEN2000	Fundamentals of Strength of Materials	√		
	MCEN2003	Machine Dynamics	√		
	MCEN2006	Computer Aided Drawing and Engineering Modelling	√		
MATH 2012	Engineering Mathematics	√		(Only if there are any repeating students from year 2023)	

DEPARTMENT	UNIT CODE	UNIT TITLE	SEM 1, 2024	SEM 2, 2024	REMARKS
	MCEN3005	Fundamentals of Mechanical Vibration	√		
	MCEN3003	Competitive Manufacturing Processes	√		
	MCEN3004	Advanced Strength of Materials	√		
	MCEN3000	Applied Thermodynamics and Heat Transfer	√		
	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)
	MCEN2004	Manufacturing Processes		√	
	MCEN2002	Fundamentals of Mechanical Design		√	
	MCEN2001	Fundamentals of Thermodynamics		√	
	ELEN2004	Electrical Plant		√	(Only if there are any repeating students from year 2023)
	MCEN3002	Applied Fluid Mechanics		√	
	MCEN3001	Machine Design		√	
	MCEN3006	Linear Systems and Control		√	
	MGMT3000	Engineering Management and Professional Practice		√	
	MCEN4010	Professional Engineering Practice		√	
	BLAW2000	Law for Engineers	√	√	(also offered to Electrical and Electronic Engineering Year 3)
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)	
APPLIED GEOLOGY HEAD OF DEPARTMENT: PROF. M.V. PRASANNA	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		√		

DEPARTMENT	UNIT CODE	UNIT TITLE	SEM 1, 2024	SEM 2, 2024	REMARKS
	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
CHEMICAL & ENERGY ENGINEERING PROGRAMME: PETROLEUM ENGINEERING	MCEN2000	Fundamentals of Strength of Materials	√		Shared unit with Mechanical Engineering
	ENGR2000	Fluid Mechanics	√		
	ENEN2000	Engineering Sustainable Development	√		Common Engineering unit
	GEOL1008	Dynamic Earth	√		
	CHEN2001	Chemical Engineering Thermodynamics (<i>Version 2: CHEN2001 Thermodynamics</i>)		√	
	CHEN2000	Process Principles	√	√	
	CHEM1000	Principles and Processes in Chemistry	√	√	
	PEEN3001	Reservoir Engineering Fundamentals	√		
	PEEN3004	Hydrocarbon Phase Behaviour	√		
	PEEN3000	Formation Evaluation	√	√	
	PEEN3005	Petroleum Geology and Geophysics	√		
	PEEN3008	Reservoir Engineering Practices		√	
	PEEN3002	Petroleum Production Technology		√	
	PEEN3006	Drilling Engineering and Fluids Laboratory		√	
	CHEN2004	Process Simulation (<i>Version 3: CHEN2004 Process Simulation and Data Analytics</i>)		√	Optional Unit
	ENGR4000	Engineering Industry Research Project 1	√	√	
	ENGR4001	Engineering Industry Research Project 2	√	√	
	PEEN4004	Numerical Reservoir Simulation	√		
	PEEN4003	Advanced Drilling Engineering	√		
	CHEN4004	Computational Fluid Dynamics	√		Elective Unit
	CHEN4018	Natural Gas Processing	√		Elective Unit
	CHEN3011	Petroleum Field and Refinery Processing		√	
	PEEN4011	Petroleum Field Development Planning		√	
CHEN4016	Process Economics and Management (<i>Version 2: CHEN4016 Engineering Economics, Management and Sustainability</i>)		√		

Note for Revision 08:

1. Availability for ENEN2000 Engineering Sustainable Development in Semester 2, 2024. ***No physical classes. Online only***