

FACULTY OF ENGINEERING AND SCIENCE, CURTIN UNIVERSITY MALAYSIA

Units Offered – Semesters 1 & 2, 2024

(Rev.05 – changes are highlighted in yellow; 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			Optional Unit
	MGMT1003	Strategic Career Design			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	√		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
CHEN4011		Advanced Modelling and Control		√	Optional Unit; Normal 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 HEAD OF DEPARTMENT: ASSOCIATE PROF. IR. DR WONG KWONG SOON	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 <i>*(intake Semester 1, until 2022 only)</i>
	STEN4004	Advanced Structural Modelling	√		Optional Unit <i>*(intake Semester 1, until 2022 only)</i>
	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 <i>*(intake Semester 1, until 2022 only) / Specialisation</i>	
STEN4005	Advanced Concrete Design and Construction		√	Optional Unit <i>*(intake Semester 1, until 2022 only) / Specialisation</i>	
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	Environmental Monitoring and Analysis		√	New 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
	CMPE3002	Computer Technology Project 1	√	√	

DEPARTMENT	UNIT CODE	UNIT TITLE	SEM 1, 2024	SEM 2, 2024	REMARKS
	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	√	√	
	ENEN2000	Engineering Sustainable Development	√		Common Engineering unit

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	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	√	√	
	COMP2006	Operating Systems	√		

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	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)	
MCEN3005	Fundamentals of Mechanical Vibration	√			

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	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		√	
GEOL2004	Sedimentology and Stratigraphy		√		

DEPARTMENT	UNIT CODE	UNIT TITLE	SEM 1, 2024	SEM 2, 2024	REMARKS
	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 05:

1. Added MCEN2005 Engineering Graphics (*in Mechanical Engineering*) for Semester 1, 2024.