

PROGRAMME STRUCTURE

BACHELOR OF CHEMICAL ENGINEERING

FIRST INTAKE: OCTOBER 2025/2026

COURSE COMPONENT	CONTENT	CREDIT								
University	GIG1012: Philosophy and Current Issues (Local) GLT1049: Bahasa Melayu Komunikasi (International)	2								
	GIG1013: Appreciation of Ethics and Civilization 2	2								
	GIG1003: Basic Entrepreneurship Enculturation	2								
	English – GLT 1. English I 2. English II	4								
	Student Holistic Empowerment (SHE) – 4 Courses Cluster: <table border="1"><tr><td>Cluster 1</td><td>Thinking Matters: Mind and Intellect</td></tr><tr><td>Cluster 2</td><td>Emotional, Physical, and Spiritual Intelligence: Mind, Body & Soul [GQX0056 KIAR is a compulsory course]</td></tr><tr><td>Cluster 3</td><td>Technology/Artificial Intelligence and Data Analytics: i-Techie</td></tr><tr><td>Cluster 4</td><td>Global Issues and Community Sustainability: Making the World a Better Place</td></tr></table>	Cluster 1	Thinking Matters: Mind and Intellect	Cluster 2	Emotional, Physical, and Spiritual Intelligence: Mind, Body & Soul [GQX0056 KIAR is a compulsory course]	Cluster 3	Technology/Artificial Intelligence and Data Analytics: i-Techie	Cluster 4	Global Issues and Community Sustainability: Making the World a Better Place	8
	Cluster 1	Thinking Matters: Mind and Intellect								
	Cluster 2	Emotional, Physical, and Spiritual Intelligence: Mind, Body & Soul [GQX0056 KIAR is a compulsory course]								
	Cluster 3	Technology/Artificial Intelligence and Data Analytics: i-Techie								
	Cluster 4	Global Issues and Community Sustainability: Making the World a Better Place								
	Co-curriculum	2								
Sub-total Credit		20								
Core	Faculty Core Courses	12								
	Department Core Courses	101								
Sub-total Credit		113								
Elective	Department Elective Courses	10								
	Specialization Courses	-								
Sub-total Credit		10								
TOTAL CREDIT		143								

YEAR	SEMESTER	COURSE COMPONENT	CODE	MODULE		CREDIT	TOTAL SEMESTER CREDIT
ONE (1)	01	UNIVERSITY: FIS/PEP/APK	GIG1003	ASAS PEMBUDAYAAN KEUSAHAWANAN	BASIC ENTREPRENEURSHIP ENCULTURATION	2	17
		UNIVERSITY: KO-K	XXXX	KO-KURIKULUM	CO-CURRICULUM	2	
		UNIVERSITY: LANGUAGE	GLTXXXX	KURSUS BAHASA INGGERIS I	ENGLISH I	2	
		FACULTY CORE	KIX1001	MATEMATIK KEJURUTERAAN 1	ENGINEERING MATHEMATICS 1	3	
		DEPARTMENT CORE	KIL1002	PRINSIP PROSES KIMIA I	CHEMICAL PROCESS PRINCIPLES I	3	
		DEPARTMENT CORE	KIL1004	LUKISAN KEJURUTERAAN	ENGINEERING DRAWING	2	
		DEPARTMENT CORE	KIL1010	KIMIA FIZIKAL DAN ANALITIKAL	PHYSICAL AND ANALYTICAL CHEMISTRY	3	
	02	UNIVERSITY: FIS/PEP/APK	GIG1012 / GLT1049	FALSAFAH DAN ISU SEMASA (WARGANEGARA) BAHASA MELAYU ASAS (PELAJAR ANTARABANGSA SAHAJA)	PHILOSOPHY AND CURRENT ISSUES (MALAYSIAN) BASIC MALAY LANGUAGE (INTERNATIONAL)	2	19
		FACULTY CORE	KIX1002	MATEMATIK KEJURUTERAAN 2	ENGINEERING MATHEMATICS 2	3	
		DEPARTMENT CORE	KIL1009	MAKMAL KIMIA FIZIKAL DAN ANALITIKAL	PHYSICAL AND ANALYTICAL CHEMISTRY LABORATORY	2	
		DEPARTMENT CORE	KIL1001	TERMODINAMIK KEJURUTERAAN KIMIA I	CHEMICAL ENGINEERING THERMODYNAMICS I	3	
		DEPARTMENT CORE	KIL1005	KAEDAH BERANGKA KEJURUTERAAN	NUMERICAL METHODS FOR ENGINEERING	3	
		DEPARTMENT CORE	KIL1006	MEKANIK BENDALIR I	FLUID MECHANICS I	3	
		DEPARTMENT CORE	KIL3001	ASAS SAINS BAHAN UNTUK KEJURUTERAAN KIMIA	BASIC MATERIAL SCIENCE FOR CHEMICAL ENGINEERING	3	
TWO (2)	03	UNIVERSITY: FIS/PEP/APK	GIG1013	PENGHAYATAN ETIKA DAN PERADABAN	APPRECIATION OF ETHICS AND CIVILISATIONS	2	18
		UNIVERSITY: LANGUAGE	GLTXXXX	KURSUS BAHASA INGGERIS II	ENGLISH II	2	
		DEPARTMENT CORE	KIL2001	PRINSIP PROSES KIMIA II	CHEMICAL PROCESS PRINCIPLES II	2	
		DEPARTMENT CORE	KIL2005	TERMODINAMIK KEJURUTERAAN KIMIA II	CHEMICAL ENGINEERING THERMODYNAMICS II	3	
		DEPARTMENT CORE	KIL2006	PEMINDAHAN HABA	HEAT TRANSFER	3	
		DEPARTMENT CORE	KIL2007	PEMINDAHAN JISIM	MASS TRANSFER	2	
		DEPARTMENT CORE	KIL2002	KIMIA ORGANIK	ORGANIC CHEMISTRY	2	
		DEPARTMENT CORE	KIL2012	PENGGOMPUTERAN KEJURUTERAAN KIMIA	CHEMICAL ENGINEERING COMPUTING	2	
	04	FACULTY CORE	KIX2006	EKONOMI KEJURUTERAAN DAN PENGURUSAN PROJEK	ENGINEERING ECONOMICS AND PROJECT MANAGEMENT	3	19
		DEPARTMENT CORE	KIL2011	STATISTIK GUNAAN UNTUK KEJURUTERAAN	APPLIED STATISTICS FOR ENGINEERING	3	
		DEPARTMENT CORE	KIL2004	MAKMAL DAN KOMUNIKASI I	LABORATORY AND COMMUNICATIONS I	2	
		DEPARTMENT CORE	KIL2008	PROSES PEMISAHAN I	SEPARATION PROCESSES I	3	
		DEPARTMENT CORE	KIL2009	KEJURUTERAAN TINDAKBALAS KIMIA I	REACTION ENGINEERING I	3	
		DEPARTMENT CORE	KIL2010	BIOKIMIA	BIOCHEMISTRY	3	
		UNIVERSITY: SHE	SHE	SHE (KLUSTER 2)	SHE (CLUSTER 2)	2	

THREE (3)	05	FACULTY CORE	KIX2005	UNDANG-UNDANG, ETIKA DAN KEMAMAPANAN UNTUK JURUTERA	LAW, ETHICS AND SUSTAINABILITY FOR ENGINEERS	3	17
		DEPARTMENT CORE	KIL3002	MEKANIK BENDALIR II	FLUID MECHANICS II	2	
		DEPARTMENT CORE	KIL3003	PEMODELAN PROSES KIMIA	MODELLING OF CHEMICAL PROCESSES	2	
		DEPARTMENT CORE	KIL3006	SINTESIS DAN SIMULASI PROSES	PROCESS SYNTHESIS AND SIMULATION	3	
		DEPARTMENT CORE	KIL3007	PROSES PEMISAHAN II	SEPARATION PROCESSES II	3	
		DEPARTMENT CORE	KIL3009	MAKMAL DAN KOMUNIKASI II	LABORATORY AND COMMUNICATION II	2	
		DEPARTMENT CORE	KIL3013	LATIHAN REKABENTUK BERINTEGRASI	INTEGRATED DESIGN EXERCISE	2	
	06	DEPARTMENT CORE	KIL3004	KAWALAN PROSES	PROCESS CONTROL	3	19
		DEPARTMENT CORE	KIL3005	TEKNOLOGI ZARAH	PARTICLE TECHNOLOGY	3	
		DEPARTMENT CORE	KIL3008	KESELAMATAN PROSES DAN PENCEGAHAN SUSUTAN	PROCESS SAFETY AND LOSS PREVENTION	3	
		DEPARTMENT CORE	KIL3011	KEJURUTERAAN TINDAKBALAS KIMIA II	REACTION ENGINEERING II	2	
		DEPARTMENT CORE	KIL3014	REKABENTUK BERINTEGRASI	INTEGRATED DESIGN	3	
		DEPARTMENT CORE	KIL3015	REKABENTUK KELENGKAPAN PROSES	DESIGN OF PROCESS EQUIPMENT	3	
UNIVERSITY: SHE	SHE	SHE (KLUSTER 1/3/4)	SHE (CLUSTER 1/3/4)	2			
SPECIAL SEMESTER	SS	DEPARTMENT CORE	KIL3010	LATIHAN INDUSTRI	INDUSTRIAL TRAINING	5	5
FOUR (4)	07	DEPARTMENT CORE	KIL4002	PROJEK REKABENTUK (P)	DESIGN PROJECT	3	15
		DEPARTMENT CORE	KIL4003	PROJEK PENYELIDIKAN (P)	RESEARCH PROJECT	3	
		DEPARTMENT CORE	KIL4018	PEMBANGUNAN MAMPAN DALAM KEJURUTERAAN	SUSTAINABLE DEVELOPMENT IN ENGINEERING	3	
		DEPARTMENT ELECTIVE	PEC	KURSUS ELEKTIF PROGRAM 1	PROGRAM ELECTIVE COURSES 1	2	
		DEPARTMENT ELECTIVE	PEC	KURSUS ELEKTIF PROGRAM 2	PROGRAM ELECTIVE COURSES 2	2	
		DEPARTMENT ELECTIVE	SHE	SHE (KLUSTER 1/3/4)	SHE (CLUSTER 1/3/4)	2	
	08	DEPARTMENT CORE	KIL4002	PROJEK REKABENTUK	DESIGN PROJECT	3	14
		DEPARTMENT CORE	KIL4003	PROJEK PENYELIDIKAN	RESEARCH PROJECT	3	
		DEPARTMENT ELECTIVE	PEC	KURSUS ELEKTIF PROGRAM 3	PROGRAM ELECTIVE COURSE 3	2	
		DEPARTMENT ELECTIVE	PEC	KURSUS ELEKTIF PROGRAM 4	PROGRAM ELECTIVE COURSE 4	2	
		DEPARTMENT ELECTIVE	PEC	KURSUS ELEKTIF PROGRAM 5	PROGRAM ELECTIVE COURSE 5	2	
		UNIVERSITY: SHE	SHE	SHE (KLUSTER 1/3/4)	SHE (CLUSTER 1/3/4)	2	
TOTAL CREDITS FOR THE PROGRAMME							143

DEPARTMENT ELECTIVE COURSES

CODE	COURSE NAME	CREDIT HOURS	PRE- REQUISITE
KIL4004	AIR POLLUTION FUNDAMENTAL	2	
KIL4007	SOLID WASTE MANAGEMENT	2	
KIL4008	WASTE WATER TREATMENT	2	
KIL4010	PETROLEUM ENGINEERING	2	
KIL4013	MEMBRANE TECHNOLOGY AND PROCESSES	2	
KIL4022	NANOTECHNOLOGY FOR ENERGY CONVERSION AND STORAGE	2	
KIL4023	TECHNOLOGY, GLOBALIZATION AND SUSTAINABLE DEVELOPMENT	2	KIL4018
KIL4025	CURRENT TECHNOLOGIES IN OLEOCHEMICALS INDUSTRY	2	KIL2008
KIL4027	NATURAL GAS ENGINEERING	2	
KIL4005	PROCESS INTEGRATION	2	
KIL4006	ADVANCED PROCESS CONTROL	2	KIL3004
KIL4009	ADSORPTION IN POROUS SOLID	2	
KIL4011	ADVANCED PROCESS SAFETY AND LOSS PREVENTION	2	KIL3008
KIL4016	REACTION ENGINEERING FOR BIOREACTORS	2	KIL2010
KIL4019	ADVANCED FLUIDIZATION ENGINEERING	2	KIL3005
KIL4020	ADVANCED FUNCTIONAL MATERIALS	2	KIL3001
KIL4021	CHEMICAL DECOMPOSITION PROCESSES	2	KIL2009
KIL4024	OPTIMAL CONTROL	2	KIL3004
KIL4026	MATERIALS CHARACTERIZATION	2	