

PROGRAMME STRUCTURE

BACHELOR OF MECHANICAL ENGINEERING

FIRST INTAKE: OCTOBER 2025/2026

COURSES 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:	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	93	
Sub-total Credit		105	
Elective	Department Elective Courses	18	
	Specialization Courses	-	
Sub-total Credit		18	
TOTAL CREDIT		143	

YEAR	SEMESTER	COURSES COMPONENT	CODE	MODULE		CREDIT	TOTAL SEMESTER CREDIT
ONE (1)	01	UNIVERSITY: FIS/PEP/APK	GIG1003	ASAS PEMBUDAYAAN KEUSAHAWANAN	BASIC ENTREPRENEURSHIP ENCULTURATION	2	19
		UNIVERSITY: LANGUAGE	GLTXXX	KURSUS BAHASA INGGERIS I	ENGLISH I	2	
		DEPARTMENT CORE	KIG1009	STATIK	STATICS	3	
		DEPARTMENT CORE	KIG1010	MEKANIK BENDALIR 1	FLUID MECHANICS 1	3	
		DEPARTMENT CORE	KIG1011	BAHAN KEJURUTERAAN 1	ENGINEERING MATERIALS 1	3	
		DEPARTMENT CORE	KIG1012	REKA BENTUK KEJURUTERAAN DAN PEMODELAN	ENGINEERING DESIGN AND MODELLING	3	
		FACULTY CORE	KIX1001	MATEMATIK KEJURUTERAAN 1	ENGINEERING MATHEMATICS 1	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	20
		UNIVERSITY: LANGUAGE	GLTXXX	KURSUS BAHASA INGGERIS II	ENGLISH II	2	
		DEPARTMENT CORE	KIG1013	TERMODINAMIK KEJURUTERAAN 1	ENGINEERING THERMODYNAMICS 1	3	
		DEPARTMENT CORE	KIG1014	MEKANIK BAHAN 1	MECHANICS OF MATERIALS 1	3	
		DEPARTMENT CORE	KIG1015	DINAMIK	DYNAMICS	3	
		DEPARTMENT CORE	KIG1016	PEMESINAN DAN PROSES PEMBUATAN	MACHINING AND MANUFACTURING PROCESSES	4	
		FACULTY CORE	KIX1002	MATEMATIK KEJURUTERAAN 2	ENGINEERING MATHEMATICS 2	3	
TWO (2)	03	UNIVERSITY: FIS/PEP/APK	GIG1013	PENGHAYATAN ETIKA DAN PERADABAN	APPRECIATION OF ETHICS AND CIVILISATIONS	2	19
		UNIVERSITY: KO-KU	CC0	KO-KURIKULUM	CO-CURRICULUM	2	
		DEPARTMENT CORE	KIG2012	MEKATRONIK 1	MECHATRONICS 1	3	
		DEPARTMENT CORE	KIG2013	PENGATURCARAAN KOMPUTER	COMPUTER PROGRAMMING	3	
		DEPARTMENT CORE	KIG2014	MEKANIK BENDALIR 2	FLUID MECHANICS 2	3	
		DEPARTMENT CORE	KIG2015	MEKANIK BAHAN 2	MECHANICS OF MATERIALS 2	3	
		DEPARTMENT CORE	KIG2016	REKA BENTUK DAN INOVASI PRODUK	PRODUCT DESIGN AND INNOVATION	3	
	04	FACULTY CORE	KIX2006	EKONOMI KEJURUTERAAN DAN PENGURUSAN PROJEK	ENGINEERING ECONOMICS AND PROJECT MANAGEMENT	3	17
		DEPARTMENT CORE	KIG2017	REKA BENTUK ELEMEN MESIN	DESIGN OF MACHINE ELEMENTS	3	
		DEPARTMENT CORE	KIG2018	TERMODINAMIK KEJURUTERAAN 2	ENGINEERING THERMODYNAMICS 2	3	
		DEPARTMENT CORE	KIG2019	KAEDAH BERANGKA DAN STATISTIK DALAM KEJURUTERAAN	NUMERICAL AND STATISTICAL METHODS IN ENGINEERING	3	
		DEPARTMENT CORE	KIG2020	MEKATRONIK 2	MECHATRONICS 2	3	
		UNIVERSITY: SHE	SHE	SHE (KLUSTER 2) GQX0056	SHE (CLUSTER 2) GQX0056	2	

THREE (3)	05	DEPARTMENT CORE	KIG3007	REKA BENTUK BERINTEGRASI 1	INTEGRATED DESIGN 1	3	16
		DEPARTMENT CORE	KIG3008	INSTRUMENTASI DAN TEKNIK PENGUKURAN	INSTRUMENTATION AND MEASUREMENT TECHNIQUES	3	
		DEPARTMENT CORE	KIG3009	GETARAN MEKANIKAL	MECHANICAL VIBRATIONS	3	
		DEPARTMENT CORE	KIG3010	BAHAN KEJURUTERAAN 2	ENGINEERING MATERIALS 2	3	
		UNIVERSITY: SHE	SHE	SHE (KLUSTER 1)	SHE (CLUSTER 1)	2	
		UNIVERSITY: SHE	SHE	SHE (KLUSTER 3)	SHE (CLUSTER 3)	2	
	06	FACULTY CORE	KIX2005	UNDANG-UNDANG, ETIKA DAN KEMAMPAKAN UNTUK JURUTERA	LAW, ETHICS AND SUSTAINABILITY FOR ENGINEERS	3	15
		DEPARTMENT CORE	KIG3011	REKA BENTUK BERINTEGRASI 2	INTEGRATED DESIGN 2	3	
		DEPARTMENT CORE	KIG3012	KEJURUTERAAN KAWALAN	CONTROL ENGINEERING	3	
		DEPARTMENT CORE	KIG3013	PEMINDAHAN HABA	HEAT TRANSFER	3	
		DEPARTMENT CORE	KIG3014	ANALISIS UNSUR TERHINGGA	FINITE ELEMENT ANALYSIS	3	
SPECIAL SEMESTER	SS	DEPARTMENT CORE	KIG3015	LATIHAN INDUSTRI	INDUSTRIAL TRAINING	5	5
FOUR (4)	07	DEPARTMENT CORE	KIG4052	PEMILIHAN BAHAN DALAM REKA BENTUK MEKANIK	MATERIALS SELECTION IN MECHANICAL DESIGN	3	17
		DEPARTMENT CORE	KIG4053	PENGURUSAN PENGELUARAN DAN KENDALIAN	PRODUCTION AND OPERATIONS MANAGEMENT	3	
		DEPARTMENT CORE	KIG4054	PROJEK TAHUN AKHIR 1	FINAL YEAR PROJECT 1	3	
		DEPARTMENT ELECTIVE	KIG4XXX	KURSUS ELEKTIF PROGRAM 1	PROGRAM ELECTIVE COURSE 1	3	
		DEPARTMENT ELECTIVE	KIG4XXX	KURSUS ELEKTIF PROGRAM 2	PROGRAM ELECTIVE COURSE 2	3	
		UNIVERSITY: SHE	SHE	SHE (KLUSTER 4)	SHE (CLUSTER 4)	2	
	08	DEPARTMENT CORE	KIG4055	PROJEK TAHUN AKHIR 2	FINAL YEAR PROJECT 2	3	15
		DEPARTMENT ELECTIVE	KIGXXXX	KURSUS ELEKTIF PROGRAM 3	PROGRAM ELECTIVE COURSE 3	3	
		DEPARTMENT ELECTIVE	KIGXXXX	KURSUS ELEKTIF PROGRAM 4	PROGRAM ELECTIVE COURSE 4	3	
		DEPARTMENT ELECTIVE	KIGXXXX	KURSUS ELEKTIF PROGRAM 5	PROGRAM ELECTIVE COURSES 5	3	
DEPARTMENT ELECTIVE		KIGXXXX	KURSUS ELEKTIF PROGRAM 6	PROGRAM ELECTIVE COURSE 6	3		
TOTAL CREDITS FOR THE PROGRAMME							143

DEPARTMENT ELECTIVE COURSES

CODE	COURSE	CREDIT HOURS	PRE-REQUISITE
KIG4056	Tribology	3	
KIG4057	Machinery Vibration and Condition Monitoring	3	
KIG4058	Engineering Acoustics and Noise Control	3	
KIG4059	Internal Combustion Engine	3	
KIG4060	Heat Exchanger Equipments	3	
KIG4061	Pump Characteristics and Application	3	
KIG4062	Computational Fluid Dynamics	3	
KIG4063	Heating, Ventilation, Air Conditioning And Refrigeration	3	KIG2018, KIG3013
KIG4064	Human Factors Design	3	
KIG4065	Sustainable Design	3	
KIG4066	Rapid Manufacturing Technology	3	
KIG4067	Manufacturing Strategy	3	
KIG4068	Machine Learning	3	
KIG4069	Ceramic Engineering	3	
KIG4070	Constitutive Modeling of Materials	3	
KIG4071	Electronic Packaging	3	
KIG4072	Failure Analysis and Prevention	3	
KIG4073	Metals and Alloys Engineering	3	
KIG4074	Nanomaterials	3	
KIG4075	Polymer and Rubber Engineering	3	
KIG4076	Semiconductor Manufacturing Process and Technology	3	
KIG4077	Mold and Die Design	3	
KIG4078	Microfabrication and Devices	3	
KIG4079	Theory and Applications in Metal Forming	3	
KIG4080	Industrial Robotics	3	
KIG4085	Corrosion Engineering	3	
KIG4086	Power Plant Engineering	3	
KIG4087	Technopreneurship In Engineering	3	