

PROGRAMME STRUCTURE

BACHELOR OF BIOMEDICAL ENGINEERING

CURRICULUM STRUCTURE

SESSION 2020/2021
(SEPTEMBER INTAKE)

Course	Content	Credit Hours
University Courses	<ul style="list-style-type: none"> • Philosophy and Current Issues* 	2
	<ul style="list-style-type: none"> • Appreciation of Ethics and Civilizations 	2
	<ul style="list-style-type: none"> • Basic Entrepreneurship Culture 	2
	<ul style="list-style-type: none"> • English for Communication Programme 	6
	<ul style="list-style-type: none"> • Information Literacy 	2
	<ul style="list-style-type: none"> • Social Engagement 	4
	Elective Course from Other Faculties Co-Curriculum	
	Sub-Total Credit Hours	22
Faculty Courses	<ul style="list-style-type: none"> • Faculty Core Courses 	22
	<ul style="list-style-type: none"> • Faculty Elective Course 	2
	Sub-Total Credit Hours	24
Programme Courses	<ul style="list-style-type: none"> • Programme Core Courses 	94
	<ul style="list-style-type: none"> • Programme Elective Courses 	8
	Sub-Total Credit Hours	102
TOTAL CREDIT HOURS		148

Notes:

*Compulsory for Local students.

** Compulsory for International students.

Students are required to take a minimum of 6 credits of English course based on English Proficiency qualification (MUET/IELTS/TOEFL)

ACADEMIC PLANNER

BACHELOR OF BIOMEDICAL ENGINEERING SESSION 2020/2021

YEAR 1						
CODE	COURSE	S1	S2	SS	TOTAL	PRE-REQUISITE
UNIVERSITY COURSES						
GIG1012/	Philosophy and Current Issues	2				
GLT1017	Basic Malay Language**					
GIG1004	Information Literacy		2			
GLT10xx	English for Communication Programme I	3				
GIG1013	Appreciation of Ethics and Civilizations		2			
	Sub-total	5	4		9	
FACULTY CORE COURSES						
KIX1001	Engineering Mathematics I	3				
KIX1002	Engineering Mathematics II		3			
KIX1003	Thinking and Communication Skill	2				
	Sub-total	5	3		8	
PROGRAMME CORE COURSES						
KIB1001	Laboratory Practical I	1				
KIB1002	Human Anatomy and Physiology I	3				
KIB1003	Statics	3				
KIB1004	Laboratory Practical II		1			
KIB1005	Human Anatomy and Physiology II		2			
KIB1006	Dynamics		3			
KIB1007	Electrical Circuit Analysis		3			
KIB1008	Basic Prosthetics and Orthotics		3			
	Sub-total	7	12		19	
PROGRAMME ELECTIVE COURSES						
	-					
	Sub-total					
Total		17	19		36	

Notes:

*Compulsory for Local students.

** Compulsory for International students.

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YEAR 2

CODE	COURSE	S1	S2	SS	TOTAL	PRE-REQUISITE
UNIVERSITY COURSES						
GLT10xx	English for Communication Programme II	3				
GIG1003	Basic Entrepreneurship Culture	2				
GIG1005	Social Engagement		2			
	Sub-total	5	2		7	
FACULTY CORE COURSES						
KIX2002	Engineering Economic Analysis		3			
	Sub-total		3		3	
FACULTY ELECTIVE COURSES						
	-					
	Sub-total					
PROGRAMME CORE COURSES						
KIB2001	Laboratory Practical III	1				
KIB2002	Electronics	3				KIB1007
KIB2003	Mechanics of Materials	3				KIB1003
KIB3004	Materials in Biomedical Engineering	3				
KIB3008	Biomedical Statistics	2				
KIB2004	Laboratory Practical IV		1			
KIB2005	Safety, Standard, and Ethics in Biomedical Engineering		2			
KIB2006	Computer and Programming		2			
KIB2007	Medical Electronics		3			KIB1007
KIB2008	Biomechanics of Human Motion		3			
KIB3009	Signal and System		2			KIX1002
	Sub-total	12	13		25	
	Total	17	18		35	

YEAR 3

CODE	COURSE	S1	S2	SS	TOTAL	PRE-REQUISITE
UNIVERSITY COURSES						
	-					
	Sub-total					
FACULTY CORE COURSES						
KIX2004	Engineering Project Management	3				
KIX2001	Integrated Design I	2				
KIX3001	Integrated Design II		4			KIX2001
KIX2003	Law and Ethics in Engineering		2			
	Sub-total	5	6		11	
FACULTY ELECTIVE COURSES						
	-					
	Sub-total					
PROGRAMME CORE COURSES						
KIB3001	Laboratory Practical V	1				
KIB3002	Medical Device Safety in Biomedical Engineering	2				KIB2005
KIB3003	Management in Clinical Engineering	3				
KIB3005	Biomedical Engineering Practice	2				
KIB3006	Mechanics of Machines	3				
KIB3007	Capstone Design Project	2P	2			
KIB3010	Control System		2			
KIB3011	Microcomputer and Digital Systems		3			
KIB3012	Fluid Mechanics		3			
KIB3013	Biochemistry and Analysis		3			
KIB3014	Industrial Training			5		
	Sub-total	13	13	5	31	
Total		18	19	5	42	

YEAR 4

CODE	COURSE	S1	S2	SS	TOTAL	PRE-REQUISITE
UNIVERSITY COURSES						
	Co-Curriculum	2				
	Other Faculty Elective Course	2				
	Other Faculty Elective Course		2			
	Sub-total	4	2		6	
FACULTY CORE COURSES						
	-					
	Sub-total					
FACULTY ELECTIVE COURSES						
KIX3XXX	Faculty Elective Course		2			
	Sub-total		2		2	
PROGRAMME CORE COURSES						
KIB4001	Computational Modelling in Biomedical Engineering	2				KIB2006
KIB4004	Electromagnetism and Electrical Machine	3				
KIB4005	Medical Instrumentation: Application and Design	3				KIB2007
KIB4006	Graduation Project	2P	4			
KIB4010	Medical Imaging		3			
KIB4011	Financial Management in Healthcare Engineering		2			
	Sub-total	10	9		19	
PROGRAMME ELECTIVE COURSES						
KIB4XXX/ KII4XXX	Programme Elective Course I	2				
KIB4XXX/ KII4XXX	Programme Elective Course II	2				
KIB4XXX/ KII4XXX	Programme Elective Course III		2			
KIB4XXX/ KII4XXX	Programme Elective Course IV		2			
	Sub-total	4	4		8	
Total		18	17		70	

LIST OF FACULTY ELECTIVE COURSE#:

CODE	COURSE	CREDIT
KIX3002	Engineering Entrepreneurship	2
KIX3003	Sustainable Engineering	2

LIST OF PROGRAMME ELECTIVE COURSES#:

CODE	COURSE	CREDIT
KIB4002	Drug Delivery System	2
KIB4003	BioMEMS	2
KIB4007	Tissue Engineering	2
KIB4008	Advanced Biomaterials	2
KIB4009	Pattern Recognition	2
KIB4012	Biosensors and Biochips	2
KIB4013	Artificial Organs and Biotransport	2
KII4001	Biomechatronics in Prosthetics and Orthotics	2
KII4005	Sensors in Healthcare	2
KII4006	Sports Biomechanics	2
KII4008	Medical Image Analysis	2

GRADUATION REQUIREMENT CHART
BACHELOR OF BIOMEDICAL ENGINEERING
INTAKE SESSION 2020/2021

CODE	COURSE	CREDIT	PASSING GRADE	MARKING SCHEME				
UNIVERSITY COURSES								
GIG 1012	Philosophy and Current Issues	2	C	MARKS	GRADE	GRADE POINTS	MEANING	
GLT 1017	Basic Malay Language**			90-100	A+	4.00	HIGH DISTINCTION	
GIG 1013	Appreciation of Ethics and Civilizations	2	C	80-89	A	4.00	DISTINCTION	
GIG1003	Basic of Entrepreneurship Culture	2	C	75-79	A-	3.70	DISTINCTION	
GIG 1004	Information Literacy	2	C	70-74	B+	3.30	GOOD	
GIG1005	Social Engagement	2	C	65-69	B	3.00	GOOD	
GLT 10XX	English for Communication Programme	6	C	60-64	B-	2.70	GOOD	
	Elective Course from Other Faculties	4	C	55-59	C+	2.30	PASS	
	Co-Curriculum	2	C	50-54	C	2.00	PASS	
	Sub-total Credit Hours	22		45-49	C-	1.70	FAIL	
FACULTY CORE COURSES				40-44	D+	1.30	FAIL	
KIX 1001	Engineering Mathematics I	3	C	35-39	D	1.00	FAIL	
KIX 1002	Engineering Mathematics II	3	C	0-34	F	0.00	FAIL	
KIX 1003	Thinking and Communication Skills	2	C	GRADE	REMARKS			
KIX 2001	Integrated Design I	2	C	P	Progressive			
KIX 2002	Engineering Economic Analysis	3	C	K	Transfer of credit without grade			
KIX 2003	Law and Ethics in Engineering	2	C	K1	Exemption of course			
KIX 2004	Engineering Project Management	3	C	I	Maybe given when:			
KIX 3001	Integrated Design II	4	C		a) a student has not taken the final examination for any course in any semester due to medical reasons/compassionate grounds and/or;			
	Sub-total Credit Hours	22			b) a student has not fulfill a part of the course requirement in a semester due to medical/compassionate grounds or by reasons beyond the control of the student which is acceptable to the Committee of Examiners concerned.			
FACULTY ELECTIVE COURSES								
KIX3002	List of Faculty Elective Courses [#] : <ul style="list-style-type: none"> • Engineering Entrepreneurship • Sustainable Engineering ^{#subject to changes.}	2	C					
KIX3003								
	Sub-total Credit Hours	2						
PROGRAMME CORE COURSES								

KIB1001	Laboratory Practical I	1	C		for this grade.
KIB1002	Human Anatomy and Physiology I	3	C		
KIB1003	Statics	3	C		
KIB1004	Laboratory Practical II	1	C		
KIB1005	Human Anatomy and Physiology II	2	C	W	Given for a course from which a student has withdrawn officially during a particular semester.
KIB1006	Dynamics	3	C		
KIB1007	Electrical Circuit Analysis	3	C		
KIB1008	Basic Prosthetics and Orthotics	3	C	W1	Given for all courses where a student has officially withdrawn from a semester.
KIB2001	Laboratory Practical III	1	C		
KIB2002	Electronics	3	C		
KIB2003	Mechanics of Materials	3	C		
KIB3004	Materials in Biomedical Engineering	3	C		
KIB3008	Biomedical Statistics	2	C		
KIB2004	Laboratory Practical IV	1	C		

KIB2005	Safety, Standard, and Ethics in Biomedical Engineering	2	C	W2	Given for all courses where a student has withdrawn officially from the University.
KIB2006	Computer and Programming	2	C		
KIB2007	Medical Electronics	3	C		
KIB2008	Biomechanics of Human Motion	3	C		
KIB3007	Capstone Design Project	4	C		
KIB3001	Laboratory Practical V	1	C		
KIB3002	Medical Device Safety in Biomedical Engineering	2	C		
KIB3003	Management in Clinical Engineering	3	C		
KIB3005	Biomedical Engineering Practice	2	C		
KIB3006	Mechanics of Machines	3	C		
KIB3009	Signal and System	2	C		
KIB3010	Control System	2	C		
KIB3011	Microcomputer and Digital Systems	3	C		
KIB3012	Fluid Mechanics	3	C		
KIB3013	Biochemistry and Analysis	3	C		
KIB3014	Industrial Training	5	C		
KIB4001	Computational Modelling in Biomedical Engineering	2	C		
KIB4004	Electromagnetism and Electrical Machine	3	C		
KIB4005	Medical Instrumentation: Application and Design	3	C		
KIB4006	Graduation Project	6	C		
KIB4010	Medical Imaging	3	C		
KIB4011	Financial Management in Healthcare Engineering	2	C		
	Sub-total Credit Hours	94			
PROGRAMME ELECTIVE COURSES					
KIB4XXX/KII4XXX	Elective 1	2	C		
KIB4XXX/KII4XXX	Elective 2	2	C		
KIB4XXX/KII4XXX	Elective 3	2	C		
KIB4XXX/KII4XXX	Elective 4	2	C		
	Sub-total Credit Hours	8			
TOTAL CREDIT		148			

