



**PROGRAMME STRUCTURE:
BACHELOR OF CHEMICAL ENGINEERING
2018/2019 SESSION**

SEPTEMBER INTAKE

**FACULTY OF ENGINEERING, UNIVERSITY OF MALAYA
KUALA LUMPUR, MALAYSIA**

Course Component	Contents	Credit
University Courses	❖ Compulsory Courses: <ul style="list-style-type: none"> • The Islamic and Asian Civilization (TITAS)* / Basic Malay Language** • Ethnic Relations * /Introduction to Malaysia** • Basic Entrepreneurship Culture • English for Communication Programme • Information Literacy • Social Engagement • Co-Curriculum • Other Faculty Elective Courses 	2 2 2 6 2 2 2 2 4
	Sub Total	22
Faculty Courses	❖ Faculty Core Courses ❖ Faculty Elective Courses	22 2
	Sub Total	24
Programme Courses	❖ Programme Core Courses ❖ Programme Elective Courses	91 6
	Total	97
Total		143

Notes:

- (1) *Compulsory for Local students.
- (2) ** Compulsory for International students.
- (3) Students are required to take a minimum of 6 credits of English course based on English Proficiency qualification (MUET/IELTS/TOEFL).

YEAR 1						
CODE	COURSE	S1	S2	SS	TOTAL	PRE-REQUISITE
UNIVERSITY COURSES						
GIG1001/ GLT1017	Islamic and Asian Civilization (TITAS)* / Basic Malay Language**	2				
GIG1002/ GIG1006	Ethnic Relation* / Introduction to Malaysia**		2			
GIG1004	Information Literacy		2			
GLT10XX	English Communication Programme I	3				
	SUB TOTAL	5	4		9	
FACULTY CORE COURSES						
KIX1001	Engineering Mathematics I	3				
KIX1002	Engineering Mathematics II		3			
	SUB TOTAL	3	3		6	
FACULTY ELECTIVE COURSE						
	-					
PROGRAMME CORE COURSES						
KIL1002	Chemical Process Principles I	3				
KIL1003	Physical and Analytical Chemistry I	2				
KIL1004	Engineering Drawing	2				
KIL1007	Physical Chemistry Laboratory	1				
KIL1001	Chemical Engineering Thermodynamics I		3			
KIL1005	Numerical Methods For Engineering		3			
KIL1006	Fluid Mechanics I		3			
KIL1008	Physical and Analytical Chemistry II		2			
	SUB TOTAL	8	11		19	
	TOTAL	16	18		34	

Note:

(1) * Only applicable to local students

** Only applicable to international students

YEAR 2						
CODE	COURSE	S1	S2	SS	TOTAL	PRE-REQUISITE
UNIVERSITY COURSES						
GIG1003	Basic Entrepreneurship Culture	2				
GIG1005	Social Engagement		2			
GLT10XX	English Communication Programme	3				
	SUB TOTAL	5	2		7	
FACULTY CORE COURSES						
KIX1003	Thinking and Communication Skills	2				
KIX2004	Engineering Project Management		3			
	SUB TOTAL	2	3		5	
FACULTY ELECTIVE COURSE						
PROGRAMME CORE COURSES						
KIL2001	Chemical Process Principles II	2				KIL1002
KIL2003	Applied Statistics	2				KIL1005
KIL2005	Chemical Engineering Thermodynamics II	3				KIL1001
KIL2006	Heat Transfer	3				
KIL2007	Mass Transfer	2				KIL1006
KIL2002	Organic Chemistry		2			
KIL2004	Laboratory and Communication I		2			
KIL2008	Separation Processes I		3			KIL1002, KIL2005
KIL2009	Reaction Engineering I		3			KIL1002
KIL2010	Biochemistry		3			
	SUB TOTAL	12	13		25	
	TOTAL	19	18		37	

Note:

- (1) * Only applicable to local students
 ** Only applicable to international students

YEAR 3						
CODE	COURSE	S1	S2	SS	TOTAL	PRE-REQUISITE
UNIVERSITY COURSES						
FACULTY CORE COURSES						
KIX2001	Integrated Design I	2				
KIX2002	Engineering Economic Analysis	3				
KIX2003	Law and Ethics in Engineering	2				
KIX3001	Integrated Design II		4			KIX2001
	SUB TOTAL	7	4		11	
FACULTY ELECTIVE COURSE						
PROGRAMME CORE COURSES						
KIL3002	Fluid Mechanics II	2				KIL1006
KIL3003	Modelling of Chemical Engineering	2				KIL2005
KIL3006	Process Synthesis and Simulation	3				KIL2005, KIL2006, KIL2008, KIL2009
KIL3007	Separation Processes II	3				KIL2001
KIL3009	Laboratory and Communication II	2				KIL2004
KIL3001	Material Science for Chemical Engineering		3			
KIL3004	Process Control		3			KIL3003, KIL3006
KIL3005	Particle Technology		3			
KIL3008	Process Safety		3			
KIL3011	Reaction Engineering II		2			KIL2009
KIL3010	Industrial Training			5		
	SUB TOTAL	12	14	5	31	
	TOTAL	19	18	5	42	

YEAR 4						
CODE	COURSE	S1	S2	SS	TOTAL	PRE-REQUISITE
UNIVERSITY COURSES						
GLXXX	Elective Course (Other Faculty)	2	2			
	Co-curriculum		2			
	SUB TOTAL	2	4		6	
FACULTY CORE COURSES						
FACULTY ELECTIVE COURSE						
KIX3002	Engineering Entrepreneurship		2			
	SUB TOTAL		2		2	
PROGRAMME CORE COURSES						
KIL3012	Process Equipment Design	3				KIL2008, KIL2009, KIL3005, KIL3007, KIL3011
KIL4001	Sustainable Development In Engineering	3				KIL3009
KIL4002	Design Project	3	3			KIL3004, KIL3011
KIL4003	Research Project	2	2			
	SUB TOTAL	11	5		16	
PROGRAMME ELECTIVE COURSES						
KIL40XX	Elective Course I	2				
KIL40XX	Elective Course II		2			
KIL40XX	Elective Course III		2			
	SUB TOTAL	2	4		6	
	TOTAL	15	15		30	

LIST OF FACULTY ELECTIVE COURSE#:

CODE	COURSE	CREDIT
KIX3002	Engineering Entrepreneurship	2

LIST OF PROGRAMME ELECTIVE COURSES#:

CODE	COURSE	PRE-REQUISITE
KIL4004	Air Pollution Fundamental	-
KIL4005	Process Integration	-
KIL4006	Advanced Process Control	KIL3004
KIL4007	Solid Waste Management	-
KIL4008	Waste water Treatment	-
KIL4009	Adsorption in Porous Solid	-
KIL4010	Petroleum Engineering	-
KIL4011	Advanced Process Safety and Loss Prevention	KIL3008
KIL4012	Finite Element Method for Chemical Engineers	KIL1005, KIL2006, KIL200, KIL3004
KIL4013	Membrane Technology and Processes	-
KIL4014	Application of Molecular Techniques in Activated Sludge Processes	KIL2010
KIL4015	Quantum Chemical and Molecular Modeling	KIL1001, KIL2005, KIL2002
KIL4016	Reaction Engineering for Bioreactors	KIL2010
KIL4017	Field Processing and Treatment of Natural Gas	-

The list of courses offered is subject to change.

GRADUATION REQUIREMENT CHART

BACHELOR OF CHEMICAL ENGINEERING

CODE	COURSE	CREDIT	PASSING GRADE	MARKING SCHEME																																																							
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GIG 1001	Islamic and Asian Civilizations (TITAS)*	2	C	<table border="1"> <thead> <tr> <th>MARKS</th> <th>GRADE</th> <th>GRADE POINTS</th> <th>MEANING</th> </tr> </thead> <tbody> <tr> <td>90-100</td> <td>A+</td> <td>4.00</td> <td>HIGH DISTINCTION</td> </tr> <tr> <td>80-89</td> <td>A</td> <td>4.00</td> <td>DISTINCTION</td> </tr> <tr> <td>75-79</td> <td>A-</td> <td>3.70</td> <td>DISTINCTION</td> </tr> <tr> <td>70-74</td> <td>B+</td> <td>3.30</td> <td>GOOD</td> </tr> <tr> <td>65-69</td> <td>B</td> <td>3.00</td> <td>GOOD</td> </tr> <tr> <td>60-64</td> <td>B-</td> <td>2.70</td> <td>GOOD</td> </tr> <tr> <td>55-59</td> <td>C+</td> <td>2.30</td> <td>PASS</td> </tr> <tr> <td>50-54</td> <td>C</td> <td>2.00</td> <td>PASS</td> </tr> <tr> <td>45-49</td> <td>C-</td> <td>1.70</td> <td>FAIL</td> </tr> <tr> <td>40-44</td> <td>D+</td> <td>1.30</td> <td>FAIL</td> </tr> <tr> <td>35-39</td> <td>D</td> <td>1.00</td> <td>FAIL</td> </tr> <tr> <td>0-34</td> <td>F</td> <td>0.00</td> <td>FAIL</td> </tr> </tbody> </table>				MARKS	GRADE	GRADE POINTS	MEANING	90-100	A+	4.00	HIGH DISTINCTION	80-89	A	4.00	DISTINCTION	75-79	A-	3.70	DISTINCTION	70-74	B+	3.30	GOOD	65-69	B	3.00	GOOD	60-64	B-	2.70	GOOD	55-59	C+	2.30	PASS	50-54	C	2.00	PASS	45-49	C-	1.70	FAIL	40-44	D+	1.30	FAIL	35-39	D	1.00	FAIL	0-34	F	0.00	FAIL
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