

BACHELOR PROGRAM
CHEMICAL ENGINEERING
2014-2015

BACHELOR IN CHEMICAL ENGINEERING

C – Credit Hours, L – Credit Lecture, P – Credit Practical

Summer Semester		CODE	COURSE			C	L	P		
		MATH 116	Pre Calculus			4	4	0		
		ARAB100	Arabic Language I			3	3	0		
					7	7	0			
CODE	COURSE	C	L	P	SPRING	CODE	COURSE	C	L	P
CHEM107/L	Fundamental Chemistry	4	3	1		PHYS101/L	General Physics I	4	3	1
ENGL150	English Language I	3	3	0		ENGL152	English Language II	3	3	0
MATH211	Calculus I	4	3	1		COMP101/L	Computer Skills	3	2	1
ENGL155	Communication Skill	3	3	0		CHEM257	Physical Chemistry for Engineering	3	2	1
ENGN103	Engineering Drawing	2	0	2		MATH212	Calculus II	3	3	0
		16	12	4				16	14	2
Summer Semester		CODE	COURSE			C	L	P		
			University elective			3	3	0		
		STAT105	Statistics for Engineering			3	3	0		
					6	6	0			
CODE	COURSE	C	L	P	SPRING	CODE	COURSE	C	L	P
ENGN101	Introduction to Engineering	2	2	0		COMP151/L	Introduction to Algorithm	4	4	0
ELEC210	Electrical Technology for Engineers	3	3	0		CHPE208	Chemical Engineering Thermodynamics	3	3	0
CHPE202	Fundamental of Chemical Engineering I	3	3	0		CHPE204	Fundamental of Chemical Engineering II	3	3	0
CHPE207	Fluid Mechanics	3	3	0		CHPE305	Mass Transfer	3	3	0
MATH312	Differential Equations for Engineers	3	3	0		HIST 150	Islamic Civilization	3	3	0
CHEM265	Organic Chemistry I	4	3	1		CHPE307	Fluid Laboratory	1	0	1
		18	17	1				17	16	1
Summer Semester		CODE	COURSE			C	L	P		
		ARAB101	Arabic Language II			3	3	0		
			College Elective			3	3	0		
					6	6	0			
CODE	COURSE	C	L	P	SPRING	CODE	COURSE	C	L	P
CHPE301	Principle of Heat transfer	3	3	0		CHPE409	Industrial Safety and pollution Control	2	2	0
CHPE304	Engineering Materials	3	3	0		CHPE308	Engineering Economy	3	3	0
CHPE303	Kinetics and Reactor Design	3	3	0		CHPE*	Technical Elective I	3	3	0
CHPE306	Chemical Process Industries	3	3	0		CHPE403	Numerical Methods and Analysis	3	3	0
CHPE309	Heat Laboratory	1	0	1		CHPE402	Separation Processes II	3	3	0
CHPE401	Separation Processes I	3	3	0		CHPE415	Chemical Process Simulation	3	1	2
		16	15	1				17	15	2
Summer Semester		CODE	COURSE			C	L	P		
		ENGN333	Industrial Training			2	0	2		
CODE	COURSE	C	L	P	SPRING	CODE	COURSE	C	L	P
CHPE507	Final year Project I	2	0	2		CHPE505	Control Laboratory	1	0	1
CHPE406	Equipment Design	3	2	1		CHPE 506	Plant Design II	3	0	3
CHPE408	Petroleum Refining and Petrochemicals	3	3	0		CHPE407	Unit Operation Laboratory II	2	0	2
CHPE501	Process Dynamics and Control	4	4	0		CHPE 508	Final Year Project II	4	0	4
CHPE503	Plant Design I	3	0	3		CHPE**	Technical Elective II	3	3	0
CHPE405	Unit Operation Laboratory I	1	0	1		CHPE***	Technical Elective III	3	3	0
		16	9	7				16	6	10
Total No of Credits									153	

Curriculum for B.Sc. Chemical and Petrochemical Engineering

Minimum number of credits for graduation in this degree plan = 153				
No.	Course code	Course	Credit	Pre-requisite
University requirements = 21 Credits				
1	ARAB100	Arabic Language-I	3(3+0)	None
2	ARAB101	Arabic Language-II	3(3+0)	ARAB100
3	COMP101/L	Computer Skill	3(2+1)	Comp-A, Comp-B (Digital Literacy)
4	ENGL150	English Language-I	3(3+0)	None
5	ENGL152	English Language-II	3(3+0)	ENGL150
6	ENGL155	Communication Skill	3(3+0)	ENGL152
7	HIST150	Islamic Civilization	3(3+0)	None
University elective = 3 Credits				
College requirements = 18 Credits				
1	COMP151/L	Introduction to Algorithm & Programming	4(3+1)	COMP101/L
2	ENGN101	Introduction to Engineering	2(2+0)	MATH116
3	ENGN103	Engineering Drawings	2(1+1)	None
4	ENGN333	Industrial Training	2(0+2)	110 credits
5	MATH116	Pre-Calculus	4(4+0)	None
6	MATH211	Calculus-I	4(3+1)	MATH116
College elective = 3 Credits				
Department Requirement: Core Course= 99 Credits				
1	CHEM107/ L	Fundamental of Chemistry	4 (4+0)	--
2	MATH212	Calculus II	3 (3+0)	MATH211
3	CHEM257/ L	Physical Chemistry for Engineering	3 (3+0)	CHEM107/L
4	MATH312	Differential Equations for Engineers	3 (3+0)	MATH212

5	PHYS101/L	General Physics-I	4 (3+1)	MATH116
6	ELEC210	Electrical Technology for Engineers	3 (3+0)	PHYS101/L
7	CHPE202	Fundamental of Chemical Engineering I	3 (3+0)	CHEM107/L, MATH211
8	CHPE204	Fundamental of Chemical Engineering II	3 (3+0)	CHPE202, CHEM257/L
9	CHPE207	Fluid Mechanics	3 (3+0)	MATH211
10	CHPE208	Chemical Engineering Thermodynamics	3 (3+0)	CHEM257/L, MATH211
11	CHEM265	Organic Chemistry I	4 (4+0)	CHEM107/L
12	CHPE301	Principle of Heat transfer	3 (3+0)	CHPE204, Co, CHPE208
13	STAT105	Statistics for Engineering	3 (3+0)	MATH211
14	CHPE305	Mass Transfer	3 (3+0)	CHPE207
15	CHPE306	Chemical Process Industries	3 (3+0)	CHPE204, CHEM265
16	CHPE307	Fluid Laboratory	1(0+1)	CHPE207
17	CHPE309	Heat Laboratory	1(0+1)	CHPE301
18	CHPE304	Engineering Materials	3 (3+0)	CHPE208
19	CHPE303	Kinetics and Reactor Design	3 (3+0)	CHPE202, CHPE208
20	CHPE409	Industrial Safety and pollution Control	2 (2+0)	CHPE401
21	CHPE401	Separation Processes I	3 (3+0)	CHPE301, CHPE305
21	CHPE403	Numerical Methods and analysis	3 (3+0)	MATH312, COMP151/L
23	CHPE308	Engineering Economy	3 (3+0)	CHPE306, STAT105
24	CHPE402	Separation Processes II	3 (3+0)	CHPE301, CHPE305, Co CHPE401
25	CHPE405	Unit Operation Laboratory I	1(0+1)	CHPE303, Co, CHPE304
26	CHPE407	Unit Operation Laboratory II	2(0+2)	CHPE401, Co- CHPE402
27	CHPE406	Equipment Design	3 (3+0)	CHPE304, CHPE401
28	CHPE408	Petroleum Refining and Petrochemicals	3 (3+0)	CHEM265, CHPE401, CHPE303
29	CHPE415	Chemical Process Simulation	3 (3+0)	CHPE306, CHPE401
30	CHPE501	Process Dynamics and Control	4(4+0)	MATH312, CHPE401
31	CHPE505	Control Laboratory	1(0+1)	CHPE501
32	CHPE503	Plant Design I	3 (3+0)	CHPE303, CHPE401, CHPE415, Co, CHPE402

33	CHPE 506	Plant Design II	3 (3+0)	CHPE406, CHPE503 Co-CHPE501
34	CHPE507	Final Year Project I	2(2+0)	Final year
35	CHPE508	Final Year Project II	4(4+0)	CHPE507
Department Technical Electives = 9 Credits				
1	CHPE422	Bioprocess Engineering	3(3+0)	CHPE303, CHPE402
2	CHPE550	Catalysis and Catalytic Reactor Design	3(3+0)	CHPE303, CHPE406
3	CHPE551	Water and Waste Water Treatment	3(3+0)	CHPE402
4	CHPE552	Polymer Science and Technology	3(3+0)	CHPE304, CHPE408
5	CHPE553	Corrosion Engineering	3(3+0)	CHPE304, CHPE406
6	CHPE555	Rheology of Complex Fluids	3(3+0)	CHPE207, CHPE402
7	CHPE556	Advance Separation Processes	3(3+0)	CHPE401, CHPE402
8	CHPE557	Gas Processing	3(3+0)	CHPE 408, CHPE501
9	CHPE554	Gas Hydrate	3(3+0)	CHPE208, CHPE 408,