



Study Plan

Degree : Bachelor Faculty : Jubail Industrial College Plan Hrs.: 127
 Semester : 451 Department : Chemical Engineering Plan Type : Major
 Edition : 1 Gender : Both
 Major : 2-1-214 Chemical Engineering

Council Session: Deanship Session : Faculty Session : Dept Session:
 Council Date: Deanship Date: Faculty Date: Dept Date :

Group Type : Compulsory 1

First							
code	course name	H	G	L	H	requisite	Yrl
CHEM 111	General Chemistry I	4				-	-
ENGL 119	Academic Writing	3				-	-
IAS 111	Arabic Language Foundation	2				-	-
MATH 111	Calculus I	4				-	-
PE 111	Physical Education I	1				-	-
PHYS 111	General Physics I	4				MATH 111 - / C	-
Total							18

Second							
code	course name	H	G	L	H	requisite	Yrl
CHEM 121	General Chemistry II	4				CHEM 111 - / P	-
CS 110	Computer Programming	3				-	-
ENGL 129	Professional Communication	3				ENGL 119 - / P	-
MATH 121	Calculus II	4				MATH 111 - / P	-
PHYS 121	General Physics II	4				MATH 121 - / C PHYS 111 - / P	-
Total							18

Third							
code	course name	H	G	L	H	requisite	Yrl
CHEM 211	Principles of Chemical Engineering	4				CHEM 121 - / P	-
CHEM 213	Organic Chemistry	4				CHEM 121 - / P	-
ENGL 213	Technical Writing	3				ENGL 129 - / P	-
IAS 221	Arabic Communication Skills	2				IAS 111 - / P	-
MATH 211	Calculus III	3				MATH 121 - / P	-
MECH 326	Materials Science for Chemical Engineers	2				CHEM 121 - / P	-
Total							18

Fourth

Group Type : Compulsory 1

Fourth							
code	course name	H	G	L	H	requisite	Yrl
CHEM 221	Physical Chemistry	4				CHEM 121 - / P	-
CHEM 222	Process Fluid Mechanics	3				CHEM 211 - / P	-
CHEM 223	Analytical Chemistry	3				CHEM 121 - / P	-
CHEM 315	Introduction to Chemical Engineering Computing	2				CHEM 211 - / P CS 110 - / P	-
CHEM 324	Chemical Process Safety and Environment	3				CHEM 121 - / P	-
MATH 221	Differential Equations	3				MATH 211 - / P	-
Total							18

Fifth							
code	course name	H	G	L	H	requisite	Yrl
CHEM 311	Chemical Engineering Thermodynamics	3				CHEM 221 - / P MATH 221 - / P	-
CHEM 313	Numerical Methods for Chemical Engineers	3				CHEM 211 - / P MATH 221 - / P	-
CHEM 316	Heat and Mass Transfer	4				CHEM 211 - / P	-
IAS 121	Islamic Culture	2				-	-
MATH 250	Probability and Statistics	3				MATH 121 - / P	-
Total							15

Sixth							
code	course name	H	G	L	H	requisite	Yrl
CHEM 321	Chemical Engineering Laboratory I	2				CHEM 222 - / P CHEM 316 - / P	-
CHEM 322	Separation Processes	3				CHEM 315 - / P CHEM 316 - / P	-
CHEM 323	Process Plant Design and Economics	3				CHEM 222 - / P CHEM 316 - / P	-
CHEM 325	Capstone Design Project I	1				CHEM 315 - / P CHEM 316 - / P	-
CHEM 422	Chemical Reaction Engineering	3				CHEM 211 - / P MATH 221 - / P	-
CS 410	Intro. to Data Science and Artificial Intelligence	3				CS 110 - / P	-
IAS 212	Professional Ethics in Islam	2				IAS 121 - / P	-
Total							17

P : Pre-requisite

G : GPA level

H : Requisite HRS

C: Co- requisite MC : Mandatory Co--requisit NC: None Co- requisite L : Pre-course Level



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 Council Date: Deanship Date: Faculty Date: Dept Date :

Category : College Requirement

Group Type : Compulsory 1

Seventh							
code	course name	H	G	L	H	requisite	Yrl
BUS 482	Business Principles and Practices	3				-	-
CHEN 326	Renewable and Sustainable Energy	2				CHEN 222 - / P CHEN 311 - / P	-
CHEN 421	Chemical Engineering Laboratory II	2				CHEN 321 - / P	-
CHEN 423	Process Dynamics and Control	3				CHEN 315 - / P	-
CHEN 424	Chemical Process Troubleshooting	2				CHEN 322 - / P	-
CHEN 425	Capstone Design Project II	2				CHEN 325 - / P	-
Total							14

Eighth							
code	course name	H	G	L	H	requisite	Yrl
CHEN 491	Field Training	3				-	-
Total							3

Category : College Requirement

Group Type : Elective 1 (6)

Group Type : Elective 1 (6)

code	course name	H	G	L	H	requisite	Yrl
BUS 244	Legal Environment in Business	3				-	-
CHEM 432	Chemistry of Materials and Environment	3				CHEM 111 - / P	-
CHEM 433	Green Chemistry and Engineering	3				CHEM 111 - / P	-
CHEM 434	Chemistry of Petrochemical Processes	3				CHEM 111 - / P	-
CIT 233	Enterprise Resource Planning	3				ENGL 119 - / P	-
ICE 439	Principle of Automation	3				MATH 121 - / P	-
MATH 432	Engineering Mathematics	3				MATH 221 - / P	-
MATH 433	Operations Research	3				MATH 221 - / P	-
PHYS 131	General Physics 3	3				PHYS 121 - / P	-
PHYS 212	Modern Physics	3				PHYS 121 - / P	-
PHYS 213	Nano Science	3				PHYS 121 - / P	-
Total							33

code	course name	H	G	L	H	requisite	Yrl
CHEN 434	Corrosion Engineering	3				CHEM 111 - / P	-
CHEN 435	Petrochemicals	3				CHEN 213 - / P	-
CHEN 436	Water Treatment and Desalination	3				CHEM 111 - / P	-
CHEN 437	Polymer Technology	3				CHEN 213 - / P	-
CHEN 438	Nanomaterials	3				CHEM 111 - / P	-
CHEN 441	Petroleum Refining	3				CHEN 213 - / P	-
CHEN 442	Energy Efficiency in Chemical Process Industries	3				CHEN 311 - / P	-
MECH 445	Solar Energy Engineering	3				-	-
MECH 446	Energy Conservation	3				-	-
MECH 447	Maintenance Engineering	3				-	-
MECH 449	Sustainable Energy Engineering	3				-	-
Total							33