



College: **ENGINEERING**
Department: **PETROLEUM AND CHEMICAL ENGINEERING**
Cohort: **2006**
Degree: **B. ENG.**
Major: **CHEMICAL AND PROCESS ENGINEERING**

<u>Summary of Credits:</u>	
University Requirements (UR)	18
Arabic	3
English	6
Contemporary Omani Society	1
Oman & Islamic Civilization or Islamic Culture	2
Free Elective	6
College Requirements (CR)	35
Math	17
Physics	8
Computer Programming	3
Chemistry	3
Introduction to Engineering	2
Workshop	1
Elective	1
Industrial Training	0
Department Requirements (DR)	87
Department Core	27
Program Core	51
Program Elective	9
TOTAL	140

For reference contact: Dr Ibrahim Ashour (HOD) Ext. 1318

HoD Date

Dean's Office Date

Registrar's Office Date

Department of Petroleum and Chemical Engineering
Degree Plan: 2006 Cohort (Scheme I: Chemical & Process Engineering)

	Course Code	Course Title	Cr.	Lec.	Lab.	Tut.	Pre-req.	Cat
Semester 1 Fall 2006		University English	0					UR
	Total			0				

Semester 2 Spring 2007	HIST 1010 ISLM 1010	Oman & Islamic Civilization or Islamic Culture	2	2				UR
	LANC 2160	English for Engineering I	3	6				UR
	CHEM 1071	General Chemistry for Engineers	3	3				CR
	ENGR 1500	Introduction to Engineering	2	1		2		CR
	ENGR 1600	Workshop I	1		2			CR
	MATH 1106	Pre-Calculus Mathematics	4	3		2		CR
Total			15					

Semester 3 Fall 2007	ARAB 1001	Arabic	3	3				UR
	LANC 2161	English for Engineering II	3	6			LANC2160 or its equivalent	UR
	SOCI 3320	Contemporary Omani Society	1	1				UR
	MATH 2107	Calculus I	4	3		2	MATH 1106	CR
	PHYS 2107	General Physics I	4	3	3			CR
Total			15					

Semester 4 Spring 2008	COMP 2xxx	Computer Programming ^a	3					CR
	MATH 2108	Calculus II	3	2		2	MATH 2107	CR
	PHYS 2108	General Physics II	4	3	3		PHYS 2107	CR
	CHPE 3102	Engineering Thermodynamics	3	2		2	CHEM 1071, MATH 2107	DR
	CHPE 3112	Principles of Chemical Processes	3	2		2	CHEM 1071	DR
Total			16					

Semester 5 Fall 2008	MATH 3171	Linear Algebra and Multivariate Calculus for Engineers	3	2		2	MATH 2108, LANC2161	CR
	MATH 4174	Differential Equations & Applications for Engineers	3	2		2	MATH 2108, LANC2161	CR
	CHPE 2211	Organic Chemistry	4	2	2	2	CHEM 1071	DR
	CHEM 2102	General Chemistry II	4	2	2	2	CHEM 1071	DR
	CHPE 3302	Fluid Flow	3	2		2	CHPE 3102	DR
Total			17					

Winter break	ENGR 3006	Industrial Training I	0				CHPE 3112	CR
	Total			0				

Semester 6 Spring 2009	ECCE 3015	Electrical Engineering Fundamentals	3	2		2	PHYS 2107	DR
	PNGE 3202	Numerical Methods	3	2		2	COMP 2xxx, MATH 3171	DR
	CHPE 3211	Applied Physical Chemistry	3	2		2	CHEM 2102	DR
	CHPE 3101	Materials Engineering	3					DR
	CHPE 3402	Heat Transfer	3	2		2	CHPE 3302, MATH 4174 or MEIE 3141 or MEIE 4151	DR
Total			15					

^a COMP 2xxx Fortran/ C++/ Visual Basic/Matlab

	Course Code	Course Title	Cr.	Lec.	Lab.	Tut.	Pre-req.	Cat
Semester 7 Fall 2009		College Elective ^b	1					DR
		Technical Elective I	3					
	PNGE 4101	Statistics for Engineers	3	2		2	MATH 2107	DR
	CHPE 4112	Chemical Engineering Thermodynamics	3	2		2	CHPE 3102/3112, PHYS 2108	DR
	CHPE 4212	Unit Operations I	3	2		2	CHPE3402	DR
	CHPE 4312	Chemical Engineering Lab I	2		4		ENGR 3006, CHPE 3402	DR
Total			15					

Semester 8 Spring 2010	CHPE 4412	Process Heat Transfer	3	2		2	CHPE 3402, CHPE3101	UR
	CHPE 4114	Computer Aided Design	2		4		PNGE 3202	DR
	PNGE 5103	Engineering Economy	3	3			MATH 2107	DR
	CHPE 4512	Chemical Reaction Engineering	3	2		2	CHPE 3211, CHPE2211	DR
	CHPE 4612	Unit Operations II	3	2		2	CHPE 4112/4212	DR
		University Elective	2					
Total			16					

Summer 2010	ENGR 4006	Industrial Training II	0				ENGR 3006	CR
Total			0					

Semester 9 Fall 2010		University Elective	2					DR
	PNGE 5203	Management for PCE	3	3			PNGE 5103	DR
	CHPE 5412	Plant and Process Design	3	2		2	CHPE 4612, PNGE 5103, CHPE 4412, CHPE 4512	DR
	CHPE 5112	Chemical Process Control	3	2	1	1	CHPE4512, MATH 3171	DR
	CHPE 4712	Chemical Engineering Lab II	2		4		CHPE 4312, PNGE 4101, CHPE4512, CHPE4612	DR
	CHPE 5312	Project I	2	1		2	CHPE4114, 4612, 4512	DR
Total			15					

Semester 10 Spring 2011		University Elective	2					UR
		Technical Elective II	3					DR
		Technical Elective III	3					
	CHPE 3212	Chemical Process Industries	3	2		2	CHPE 2211	DR
	CHPE 5212	Chemical Engineering Lab III	2		4		CHPE 4612, 4712, 5112	DR
	CHPE 5512	Project II	3		6		CHPE 5312, 5412	DR
Total			16					

^b CHPE 3103 Professional Practice.

Department of Petroleum and Chemical Engineering
Degree Plan: 2006 Cohort (Scheme II: Chemical & Process Engineering)

	Course Code	Course Title	Cr.	Lec.	Lab.	Tut.	Pre-req.	Cat.
Sem. 1 Fall 006		University English	0					UR
	Total			0				
Semester 2 Spring 2006		University English	0					UR
	Total			0				
Semester 3 Fall 2007	ARAB 1001	Arabic	3	2				UR
	LANC 2160	English for Engineering I	3	6				UR
	CHEM 1071	General Chemistry for Engineers	3	3				CR
	ENGR 1500	Introduction to Engineering	2	1		2		CR
	ENGR 1600	Workshop I	1		2			CR
	MATH 1106	Pre-Calculus Mathematics	4	3		2		CR
	Total			16				
Semester 4 Spring 2008		University Elective	2					UR
	HIST 1010	Oman & Islamic Civilization or	2	2				UR
	ISLM 1010	Islamic Culture						
	LANC 2161	English for Engineering II	3	6			LANC2160 or its equivalent	UR
	SOCI 3320	Contemporary Omani Society	1	1				UR
	MATH 2107	Calculus I	4	3		2	MATH 1106	CR
	PHYS 2107	General Physics I	4	3	3			CR
	Total			16				
Summer 2008	COMP 2xxx	Computer Programming ^a	3					CR
	MATH 2108	Calculus II	3	2		2	MATH 2107	CR
	Total			6				
Semester 5 Fall 2008	MATH 3171	Linear Algebra and Multivariate Calculus for Engineers	3	2		2	MATH 2108, LANC2161	CR
	MATH 4174	Differential Equations & Applications for Engineers	3	2		2	MATH 2108, LANC2161	CR
	CHEM 2102	General Chemistry II	4	2	2	2	CHEM 1071	DR
	CHPE 3102	Engineering Thermodynamics	3	2		2	CHEM 1071, MATH 2107	
	CHPE 3112	Principles of Chemical Processes	3	2		2	CHEM 1071, MATH 2107	DR
	Total			16				
Winter break	ENGR 3006	Industrial Training	0				CHPE 3112	CR
	Total			0				
Semester 6 Spring 2009	CHPE 3101	Materials Engineering	3	3				DR
	PNGE 3202	Numerical Methods	3	2		2	COMP 2xxx, MATH 3171	DR
	CHPE 3211	Applied Physical Chemistry	3	2		2	CHEM 2102	DR
	CHPE 3302	Fluid Flow	3	2		2	CHPE 3102	DR
	PHYS 2108	General Physics II	4	2		2	PHYS 2107	
	Total			16				

^a COMP 2xxx Fortran/ C++/ Visual Basic/Matlab

	Course	Course Title	Cr.	Lec.	Lab.	Tut.	Pre-req.	Cat
Summer 2009	PNGE 4101	Statistics for Engineers*	3	3	3		MATH 2107	CR
	CHPE 3402	Heat Transfer	3	2		2	CHPE 3302 MATH 4174 or MEIE 3141 or MEIE 4151	
	Total		6					

Semster 7 Fall 2009	CHPE 4312	Chemical Engineering Lab I	2		4		ENGR 3006, CHPE 3402	DR
	CHPE 2211	Organic Chemistry	4	2	2	2	CHEM 1071	DR
	CHPE 4112	Chemical Engineering Thermodynamics	3	2		2	CHPE 3102/3112, PHYS 2108	DR
	CHPE 4212	Unit Operations I	3	2		2	CHPE3402	DR
		Technical Elective I	3					
		College Elective ^b	1					DR
Total		16						

Semester 8 Spring 2010	CHPE 4412	Process Heat Transfer	3	3			CHPE 3402, CHPE3101	DR
	CHPE 4114	Computer Aided Design	2		4		PNGE 3202	DR
	PNGE 5103	Engineering Economy	3	2		2	MATH 2107	DR
	CHPE 4512	Chemical Reaction Engineering	3	2		2	CHPE 3211, 2211	DR
	CHPE 4612	Unit Operations II	3	2		2	CHPE 4112/4212	DR
		University Elective	2					
Total		16						

Summer 2010	ENGR 4006	Industrial Training II	0				ENGR 3006	CR
	Total		0					

Semester 9 Fall 201010	PNGE 5203	Management for PCE	3	3			PNGE 5103	DR
	CHPE 5412	Plant and Process Design	3	2		2	CHPE 4612, PNGE 5103, CHPE4412, CHPE4512	DR
	ECCE 3015	Electrical Engineering Fundamentals	3	2		2	PHYS 2107	DR
	CHPE 5112	Chemical Process Control	3	2	1	1	CHPE4512, MATH 3171	DR
	CHPE 4712	Chemical Engineering Lab II	2		4		CHPE 4312/4512 PNGE 4101, CHPE4612	DR
	CHPE 5312	Project I	2	1		2	CHPE4114, 4612, 4512	DR
Total		16						

Semester 10 Spring 2011		University Elective	2					UR
		Technical Elective II	3					DR
		Technical Elective III	3					DR
	CHPE 3212	Chemical Process Industries	3	2		2	CHPE 2211	DR
	CHPE 5212	Chemical Engineering Lab III	2		4		CHPE 4612, 4712, 5112	DR
	CHPE 5512	Project II	3		6		CHPE 5312, CHPE5412	DR
Total		16						

^b CHPE 3103 Professional Practice (Prerequisite is LANC 2161).

* These two courses offer each semester and may not offer in summer.

CHEMICAL AND PROCESS ENGINEERING – LIST OF PROGRAM ELECTIVES

The students will be required to take 3 courses from this elective basket.

#	Code	Course title	Cr	Coll	Dep	Prerequisite	Action needed
1	CHPE 4102	Polymers	3	Eng	PCE	CHPE 2211	Or PNGE 3111
2	CHPE 4202	Corrosion	3	Eng	PCE	CHPE 3211	
3	CHPE 4302	Desalination	3	Eng	PCE	CHPE 3402	
4	CHPE 4402	Natural Gas Processing	3	Eng.	PCE	CHPE 4112	
5	CHPE 4812	Special Topics 1	3	Eng	PCE	CHPE 3402	
6	CHPE 4912	Special Topics 2	3	Eng	PCE	CHPE 3402	
7	PNGE 5102	Health, Safety and Environment	3	Eng	PCE	CHPE 3103	
8	CHPE 5207	Petroleum Refining	3	Eng.	PCE	CHPE 2211	
9	CHPE 5612	Chemical Process Safety	3	Eng	PCE	CHPE 3302	
10	CHPE 5712	Process Integration, Synthesis and Simulation	3	Eng	PCE	CHPE 4612	
11	CHPE 5812	Heterogeneous Catalysis and Reactor Design	3	Eng	PCE	CHPE 4512	
12	CIVL 4136	Environmental Engineering 1	3	Eng	CIVL	CHEM 1017, CHPE 3302	
13	CHEM 3337	Fundamentals of Corrosion of Metals	3	Sci	CHEM		Elective equivalent to CHPE 4202
14	CHEM 3341	Analytical Chemistry I	3	Sci	CHEM	MATH 1106, CHEM 2102	

College Elective: CHPE 3103 Professional Practice.