

Table 5.1: Basic-Level Curriculum (Chemical Engineering Program)

Year	Course (Department, Number, Title)		Category (Credit Hours)			
			Math & Basic Sciences	Engineering Topics	General Education	Others
1st level	ENG 102	English Language- 1			7	
	MATH 105	Differential calculus	3			
	PHY 103	General Physics 1	4			
	IC 101	Introduction to Islamic Culture			2	
	ARA 101	Language Skills				2
2ed level	ENG 104	English Language 2			3	
	MATH 106	Integral Calculus	3			
	MATH 107	Algebra & analytical Geometry	3			
	PHY 104	General Physics 2	4			
	CHEM 101	General Chemistry 1	4			
3ed level	MATH 203	Differential & Integral Calculus	3			
	GE 102	Workshop				1
	GE 210	Engineering Mechanics			3	
	GE 204	Computer Applications in Eng.				2
	IC 102	Islam and Construction of Society			2	
	ARA 103	Expository Writing			2	
	CHE 201	Chemical Eng Principles 1		3		
4 th level	IC 103	Economical system in Islam			2	
	MATH 204	Differential Equations	3			
	GE 209	Computer Programming			3	
	CHE 202	Chemical Eng Principles 2		2		
	CHEM 244	Organic Chemistry	2			
	CHEM 230	Physical Chemistry	3			
5 th level	MATH 254	Numerical Methods	3			
	CHEM 245	Organic Chemistry 2	2			
	CHEM 239	Physical Chemistry Lab	1			
	CHE 302	Computer-Aided Mass & Energy Balances		2		
	GE 104	Engineering Graphics			3	
	CHE 312	Momentum Transfer Operations		3		
	CHE 307	Thermodynamics 1		2		
6 th Level	STAT 324	Eng Probability & Statistics	3			
	CHEM 249	Recognition of Organic Compound	2			
	CHE 308	Thermodynamics 2		2(√)		
	CHE 309	Unit Operations		3		
	CHE 313	Heat Transfer Operations		3(√)		
	CHE 331	Principles of Material Science		3		
7 th level	CHEM 350	Instrumental analysis	4			
	EE 308	Circuits & Electrical Machines			3	
	CHE 314	Mass Transfer Operations		3(√)		
	CHE 401	Computational Methods		2		
	CHE 404	Chemical Reactor Engineering		3(√)		

8 th	IC 104	Political System in Islam			2	
level	CHE 316	Separation Processes 1		3(√)		
	CHE 402	Chemical Engineering Lab 1		2		
	CHE 323	Process Control		3		
	CHE 321	Computer Aided Process Design		3(√)		
	CHE 432	Material Eng and Corrosion		3		
9 th	CHE 403	Chemical Eng Lab 2		2		
level	CHE 426	Heterogeneous Reactor Eng		3(√)		
	CHE 422	Selected topics 1		3(√)		
	CHE 498	Project 1		2(√)		
	CHE 411	Separation Processes 2		3(√)		
	CHE 421	Chemical Processes Economics		3		
10 th	GE 402	Eng Projects Management		1	2	
level	CHE 405	Chemical Eng Lab 3		2		
	CHE 413	Desalination & Water Treatment		3(√)		
	CHE 441	Petroleum Refinery Eng		3		
	CHE 499	Project 2		3(√)		
	CHE 423	Selected Topics 2		2(√)		
	Total		47	74	34	5
	Minimum		32	48		