

BSc in Chemical Engineering – Curriculum Chart

Term 1

Courses	Credits	Code	Prerequisites	Type
General Chemistry	3			B
General Mathematics 1	3			B
Mechanical Physics	3			B
General English	3			G
General Persian	3			G
Basics of Computer Programming	3			B
Introduction to Students Lifestyle	-			-
Total Credits	18			

Term 2

Courses	Credits	Code	Prerequisites / (Corequisites)	Type
Basic Principles and Calculations in Chemical Engineering	۴		General Chemistry	C
General Mathematics 2	۳		General Mathematics 1	B
Differential Equations	۳		(General Mathematics 2)	B
Numerical Methods in Chemical Engineering	۲		Engineering Software Workshop	R
Engineering Software Workshop	۱		Basics of Computer Programming - (Numerical Methods in Chemical Engineering)	B
General Physics 2	۳		General Mathematics 1	B
Physics 1 Lab	۱		Physics 1	B
<i>one of the general courses</i>	۲		-	G
General Chemistry Lab	۱		General Chemistry	B
Total Credits	۲۰			

Term 3

Courses	Credits	Code	Prerequisites	Type
Fluid Mechanics	۳		Physics 1 - Differential Equations - Basic Principles and Calculations in Chemical Engineering	C
Chemical Engineering Thermodynamics 1	۳		General Mathematics 2 - Basic Principles and Calculations in Chemical Engineering	C
Engineering Mathematics	۳		Differential Equations	C
Organic Chemistry	۳		General Chemistry	B
General Workshop	۱		-	B
<i>one of the general courses</i>	۲		-	G
Physical Education 1	۱		-	G
Physics 2 Lab	۱		General Physics 2	B
Total Credits	۱۷			

Term 4

Courses	Credits	Code	Prerequisites	Type
Fluid Mechanics 2	۳		General Mathematics 2	R
Heat Transfer	۳		Fluid Mechanics 1 - Engineering Mathematics	C
Applied Chemistry Lab	۱		Organic Chemistry	C
Statistics and Probability	۳		General Mathematics 1	R
Professional Skills in Chemical Engineering	۲		-	C
Principles of Chemistry and Polymer Technology	۳		Fluid Mechanics 1	E
Instrumental and Experimental Chemical Analysis	۳		General Chemistry Lab	R
<i>one of the general courses</i>	۲		-	G
Total Credits	۲۰			

Term 5

Courses	Credits	Code	Prerequisites / (Corequisites)	Type
Mass Transfer Operation	۳		Heat Transfer - (Thermodynamics of Phase Equilibrium)	C
Thermodynamics of Phase Equilibrium	۳		Chemical Engineering Thermodynamics - (Mass Transfer - Chemical Reactions Engineering)	C
Heat Transfer Equipment Design	۳		Heat Transfer	R
Chemical Reactions Engineering	۳		(Mass Transfer) - (Thermodynamics of Phase Equilibrium)	C
Principles of Combustion Engineering	۳		Chemical Engineering Thermodynamics	E
Engineering Drawing and Map Reading Workshop	۲		(Mass Transfer Operation)	B
Chemical Engineering 1 Lab	۱		Fluid Mechanics 1 - Chemical Engineering Thermodynamics	C
<i>one of the general courses</i>	۲		-	G
Total Credits	۲۰			

Term 6

Courses	Credits	Code	Prerequisites / (Corequisites)	Type
Separation Processes 1	۳		Mass Transfer Operation - (Chemical Engineering Software Workshop)	C
Mathematical Modeling in Chemical Engineering	۳		Chemical Reactions Engineering	C
Chemical Engineering 2 Lab	۱		Mass Transfer Operation - Chemical Reactions Engineering	C
Electromechanical Engineering and Corrosion	۳		Chemical Reactions Engineering	R
Chemical Engineering Software Workshop	۲		Chemical Reactions Engineering - (Separation Processes 1)	C
Petroleum Refining Engineering	۳		Mass Transfer Operation	E
English for Students of Chemical Engineering	۲		General English	C
Physical Education 2	۱		Physical Education 1	G
Total Credits	۱۸			

Term 7

Courses	Credits	Code	Prerequisites	Type
Dynamics and Process Control	۳		Separation Processes 1 - Chemical Reactions Engineering	C
Separation Processes 2	۳		Mass Transfer Operation	R
Principles of Economics and Process Design	۴		Separation Processes 1 - Map Reading Workshop - (Process Design Project 1)	C
Process Design Project 1	۳		Chemical Engineering Software Workshop - (Principles of Process Economics)	C
Food Industry Engineering	۳		Separation Processes 1	E
<i>a general course</i>	۲		-	G
Total Credits	۱۸			

Term 8

Courses	Credits	Code	Prerequisites	Type
Petrochemical Processes	۳		Separation Processes 1	E
Chemical Engineering Lab 3	۱		Dynamics and Control Process	C
Research Project	۳		Professional Skills in Chemical Engineering + 100 credits	R
Internship	۲		Professional Skills in Chemical Engineering + 100 credits	C
<i>a general course</i>	۲		-	G
Total Credits	۱۱			

Total Credits of General Courses: 20

Total Credits of Basic Courses: 31

Total Credits of Required Courses: 21

Total Credits of Elective Courses: 15

Total Credits of Core Courses: 55

Total Credits: 142

Course Types: G=General

B=Basic

R=Required

C=Core

E=Elective