

Degree and Study Plan

College	Applied and Health Sciences
Department	Basic and Applied Sciences
Program	Industrial Chemistry
Degree Level	Bachelor
Total Credit Hours	121
Cohort	

Summary of Credits	
University Requirements (UR)	15
University Electives (UE)	-
College Requirements (CR)	32
Program Requirements (PR)	65
Program Electives (PE)	9
Total	121

For more information contact:

HoD: Dr. Rayya Al-Balushi

Dean:

Date:

Year One	Semester 1 (Fall)				
	Course Code	Course Title	Credits	Pre-Request/ Co-Request	Category
	ENGL101	English Comm. Skills I	3	None	UR
	CHEM101	Chemistry I	3	Co: CHEM181	CR
	CHEM181	Chemistry I Lab	1	Co: CHEM101	CR
	BIOL101	Biology I	3	Co: BIOL181	CR
	BIOL181	Biology I Lab	1	Co: BIOL101	CR
	MATH101	Calculus I	3	None	CR
	CHEM110	Green Chemistry	3	None	PR
	Total Credits		17		
Year One	Semester 2 (Spring)				
	Course Code	Course Title	Credits	Pre-Request/ Co-Request*	Category
	CHEM102	Chemistry II	3	Pre: CHEM101, CHEM181 Co: CHEM182	PR
	CHEM182	Chemistry II Lab	1	Pre: CHEM101, CHEM181 Co: CHEM102	PR
	MATH102	Calculus II	3	Pre: MATH101	CR
	ENGL102	English Comm. Skills II	3	Pre: ENGL101	UR
	ISLM101	Islamic Civilization	3	None	UR
	PHYS101	Physics I	3	Co: PHYS181	CR
	PHYS181	Physics I Lab	1	Co: PHYS101	CR
	Total Credits		17		

Year Two	Semester 3 (Fall)				
	Course Code	Course Title	Credits	Pre-Request/ Co-Request	Category
	CHEM201	Organic Chemistry I	3	Pre: CHEM101, CHEM181 Co: CHEM281	PR
	CHEM281	Organic Chemistry I Lab	1	Pre: CHEM181 Co: CHEM201	PR
	CHEM211	Inorganic Chemistry I	3	Pre: CHEM102	PR
		Elective 1	3		PE
	MNGT313	Entrepreneurship	3	60 CH	UR
	STAT201	Statistics	3	Pre: MATH101	CR
	Total Credits		16		
	Year Two	Semester 4 (Spring)			
Course Code		Course Title	Credits	Pre-Request/ Co-Request	Category
CHEM212		Analytical chemistry I	3	Pre: CHEM102 Co: CHEM292	PR
CHEM292		Analytical chemistry I Lab	1	Pre: CHEM182 Co: CHEM212	PR
CHEM216		Polymer Chemistry	3	Pre: CHEM201 Co: CHEM296	PR
CHEM296		Polymer Chemistry Lab	1	Pre: CHEM281 Co: CHEM216	PR
CHEM214	Industrial Chemistry	3	Pre: CHEM102, CHEM201, CHEM211 Co: CHEM294	PR	

	CHEM294	Industrial Chemistry Lab	1	Pre: CHEM182, CHEM281, CHEM211 Co: CHEM214	PR
	CHEM210	Environmental Chemistry	3	Pre: CHEM102, CHEM201, CHEM110	PR
	ARAB101	Arabic	3	Null	UR
	Total Credits			18	

Year Three	Semester 5 (Fall)				
	Course Code	Course Title	Credits	Pre-Request/ Co-Request	Category
	CHEM302	Inorganic Chemistry II	3	Pre: CHEM211 Co: CHEM382	PR
	CHEM382	Inorganic Chemistry II Lab	1	Pre: CHEM211, CHM182 Co: CHEM302	PR
		Elective 2	3	Null	PE
	CHEM314	Unit Operations	3	Pre: CHEM201, CHM214 Co: CHEM394	PR
	CHEM394	Unit Operations Lab	1	Pre: CHEM281, CHM294 Co: CHEM314	PR
	CHEM313	Physical Chemistry I	3	Pre: CHEM102, MATH102 Co: CHEM393	PR
	CHEM393	Physical Chemistry I Lab	1	Pre: CHEM182 Co: CHEM313	PR
	Total Credits			15	
	Semester 6 (Spring)				
	Course Code	Course Title	Credits	Pre-Request/ Co-Request	Category
	CHEM303	Analytical Chemistry II	3	Pre: CHEM212 Co: CHEM383	PR
	CHEM383	Analytical Chemistry II Lab	1	Pre: CHEM292 Co: CHEM303	PR
	CHEM310	Petroleum Products and Processing	3	Pre: CHEM201, CHEM281, CHEM211, CHEM212, CHEM292, CHEM210, CHEM214, CHEM294	PR
	CHEM300	Principals of Chemical Engineering	3	Pre: CHEM212, CHEM292, CHEM210, MATH102	PR
	CHEM301	Organic Chemistry II	3	Pre: CHEM201 Co: CHEM381	PR
	CHEM381	Organic Chemistry II Lab	1	Pre: CHEM281 Co: CHEM301	PR
	APSC312	Professional Ethics	2	Null	CR
	Total Credits			16	

Year Four	Semester 7 (Fall)					
	Course Code	Course Title	Credits	Pre-Request/ Co-Request	Category	
	CHEM411	Pharmaceutical and Medicinal Chemistry	3	Pre:CHEM214,CHEM216, CHEM301,CHEM314, CHEM303 Co: CHEM491	PR	
	CHEM491	Pharmaceutical and Medicinal Chemistry Lab	1	Pre: CHEM294, CHEM296, CHEM381, CHEM394, CHEM383 Co: CHEM411	PR	
	CHEM489	Research project	3	Pre: CHEM304, CHEM314	CR	
	CHEM410	Materials Chemistry	3	Pre: CHEM211, CHEM216, CHEM302, CHEM313	PR	
		Elective 3	3		PR	
	CHEM414	Catalysis	3	Pre: CHEM302, CHEM382, CHEM301, CHEM381	PR	
	Total Credits		16			
	Semester 8 (Spring)					
Course Code	Course Title	Credits	Pre-Request/ Co-Request	Category		
CHEM499	Internship	6	Pre: CHEM489	CR		
Total Credits		6				

List of Program Elective Courses:

A student must register in 3 courses with total of 9 credits hours following the program study plan:				
Course Code	Course Title	Credits	Pre-Request/ Co-Request	
CHEM206	Chemical Process Economics and Sustainable	3	Pre: CHEM201, CHEM281	
CHEM215	Food Chemistry and Analysis	3	Pre: CHEM201, CHEM281	
PHYS221	Mechanics and thermodynamics	3	Pre: PHYS101, PHYS181	
MATH203	Differential Equations	3	Pre: MATH102	
CHEM312	Biochemistry	3	Pre: BIOL101, BIOL181, CHEM20, CHEM281	
CHEM315	Metallurgy	3	Pre: CHEM201, CHEM281, CHEM102, CHEM182, CHEM211	
CHEM316	Phytochemistry	3	Pre: CHEM201, CHEM281	
CHEM320	Computers in Chemistry	3	Pre: CHEM201, CHEM102, CHEM211	
CHEM412	Science and Technology of Cosmetics and Perfumery Chemicals	3	Pre: CHEM201, CHEM281, CHEM214, CHEM383, CHEM303	
CHEM413	Science and Technology of Soaps and Detergents	3	Pre: CHEM201, CHEM281, CHEM214, CHEM383, CHEM303	
CHEM415	Nanotechnology Application in Chemical Industry and Applied Spectroscopy	3	Pre: CHEM301, CHEM381, CHEM313, CHEM393, CHEM320	

