

Chemistry Program Plan

Curriculum plan for the chemistry program for the eight levels

First Level

m	Course name		Study units			Prerequisite
	Course code	The name	the ore tica l	practic al	Appr oved	-
1	111-Slm -2	Introduction to Islamic Culture	2	-	2	-
2	102 NGL-3	Linguistic texts	3	-	3	-
3	101 HAL-3	Computer science	2	2	3	-
4	101 Chem-4	General chemistry1	3	2	4	-
5	101 Bio-4	Biology	3	2	4	-
elective courses		Not applicable				
Group of approved units		16				
Number of actual contact hours		19				

Second level

m	Course name		Study units			Prereq uisite
	Course code	The name	Differ ential calcu lus	pr ac tic al	Certi fied	-
1	112 SLM-2	Islamic Culture 2	2	-	2	-
2	104 Eng-3	Scientific English	3	-	3	102 ENG-3
3	102 Chem-4	General chemistry2	3	2	4	-
4	101 Phys-4	Introduction to physics	3	2	4	-
5	101 Math -4	Differential calculus	3	2	4	
elective courses		Not applicable				
Group of approved units		17				
Number of actual contact hours		20				

Third level

M	Course name		Study units			Prerequisite
	Course code	The name	theoretical	practical	Certified	-
1	113 SLM-2	Introduction to Islamic culture ³	2	-	2	-
2	104 Math-3	Integration and differential equations	3	-	3	101 Math-4
3	241 Chem-4	Organic chemistry ¹	3	2	4	101 Chem-4
4	251 Chem-4	Quantitative Analytical Chemistry	3	2	4	-
5	221 Chem-2	Chemistry of main groups	2	-	2	-
6	232 Chem-3	Thermodynamics Chemistry	3	-	3	-
elective courses		Not applicable				
Group of approved units		18				
Number of actual contact hours		20				

fourth level

M	Course name		Study units			Prerequisi te
	Course code	The name	theoret ical	practical	Cer tifie d	-
1	114 SLM-2	Introduction to Islamic culture4	2	-	2	-
2	242 Chem-4	Organic chemistry2	3	2	4	241 Che m-4
3	233 Chem-2	Quantum chemist	2	-	2	114- Math -3
4	222 Chem-3	Chemistry of transition elements	2	2	3	-
5	234 Chem-2	Electrochemistryy	2	-	2	101 Che m-4
6	210 Chem-2	Computer applications in chemistry	1	2	2	1- 1hal-3
7	235 Chem-2	Physical Chemistry practical	-	4	2	-
elective courses		Not applicable				
Group of approved units		17				
Number of actual contact hours		22				

Fifth level

m	Course name		Study units			Prerequ isite
	Course code	The name	theoret ical	pra cti cal	Certifi ed	-
1	361 Chem-3	Biochemistry1	2	2	3	-
2	323 Chem-2	Lanthanides and nuclear chemistry	2	-	2	-
3	343 Chem-2	Organic Chemistry – 3 Physical	2	-	2	241 Chem-4
4	344 Chem-2	Organic Chemistry-4	2	-	2	242 Chem-4
5	345 Chem-2	Preparation of organic compounds- Practical	-	4	2	242 Chem-4
6	336 Chem-3	Kinetic chemistry	2	2	3	
7	201 Arab-2	linguistic skills	2	-	2	
elective courses		Not applicable				
Group of approved units		16				
Number of actual contact hours		20				

Sixth level

m	Course name		Study units			Prereq uisite
	Course code	The name	theo retic al	pr a ct ic al	Cert ified	-
1	301 Edu-3	Thinking and communication skills	3	-	3	-
2	324 Chem-2	Organometallic chemistry	2	-	2	222 Chem -3
3	352 Chem-3	Automated analysis	2	2	3	251 Chem -4
4	325 Chem-2	Mechanism of inorganic reactions	2	-	2	-
5	246 Chem-2	Organic chemistry- Practical	-	4	2	345 Chem -2
6	347 Chem-2	Natural Products Chemistry	2	-	2	344 Chem -2
7	202 Arab-2	Arabic editing	2	-	2	-
elective courses		Not applicable				
Group of approved units		16				
Number of actual contact hours		19				

Seventh level

M	Course name		Study units			Prerequisit e
	Course code	The name	theo retic al	p ra ct ic al	Cer tifie d	-
1	437 Chem-2	Photochemistry and Spectroscopy	2	-	2	-
2	448 Chem-2	Mechanism of organic reactions	2	-	2	343 Chem -2
3	462 Chem-3	Biochemistry 2	2	2	3	361 Chem -3
4	453 Chem-3	Chemical and chromatographic separation methods	2	2	3	-
5	121 -Stat-3	Principles of Statistics and Probability	3	-	3	-
Elective courses (one elective specialized course, two hours only)						
6	430 Chem-2	Solid state chemistry	2	-	2	-
7	440 Chem-2	Applied Organic Chemistry	2	-	2	-
8	426 Chem-2	Group theory	2	-	2	-
elective courses	Not applicable					
Group of approved units	15					
Number of actual contact hours	17					

Eighth level

m	Course name		Study units			Prerequisite
	Course code	The name	theoretical	practical	Certified	-
1	449 Chem-2	Petroleum and Petrochemical Chemistry	2	-	2	-
2	438 Chem-2	Surface Chemistry, Colloids, and Catalysis	2	-	2	-
3	454 Chem-2	Environmental analysis	2	-	2	-
4	410 Bio-2	Health culture	2	-	2	-
5	471 Chem-3	Research project	1	4	3	453chem-3 448chem-2 437chem-2
Elective courses (two elective courses in the major, each 2 hours)						
6	439 CHEM-2	Corrosion chemistry	2	-	2	
7	4425 CHEM-2	Industrial inorganic chemistry	2	-	2	
8	455 CHEM-2	Training on advanced analysis devices	2	-	2	
9	413 Chem-2	Statistical Treatment of chemical data	2	-	2	
Group of approved units	15					
Number of actual contact hours	17					

Total number of credit hours: 130 credit hours Number/percentage of units approved for the specialization out of the total program units: 86 units, 66.2%

Number/percentage of required units from outside the department: 32 units (24.6%)

Compulsory major courses: 80 units/61.5%

Elective major courses 6 units/4.6%

Number/percentage of University Requirements: 12 units/9.2