



كلية العلوم
Faculty of Science

Study Plan for the Bachelor Degree in Chemistry 132 credit hours



Study Plan for the Bachelor Degree in CHEMISTRY 132 credit hours

Requirements for the B.Sc. Degree in Chemistry

All students working for their Bachelor's Degree in Chemistry must successfully complete 132 credit hours distributed as follows:

Requirements		Credit Hours
University Requirements	Compulsory Courses	15
Faculty Requirements	Compulsory Courses	27
Departments Requirements	Compulsory Courses	80
	Elective Courses	10
Total Credit Hours		132

Head of Department



Dr Khalaf M. Alenezi



Head of Academic Committee



Dr. Ahmed H. Shamroukh



Study Plan for the Bachelor Degree in CHEMISTRY

FIRST YEAR

FIRST SEMESTER					SECOND SEMESTER				
CODE	COURSE TITLE	Cr.	Lect.	Lab.	CODE	COURSE TITLE	Cr.	Lect.	Lab.
ARAB 101	Arabic language skills	2	2	0	ARAB 102	Arabic Composition	2	2	0
ENGL 110	Writing Skills	3	3	0	BIOL 101	General Biology	4	3	3
IC 101	Introduction to Islamic culture	2	2	0	CHEM 101	General Chemistry I	4	3	3
MATH 101	Calculus I	4	4	0	ENGL 101	English Composition I	3	3	0
PHYS 100	Renewable Energy	2	2	0	IC 102	Islamic and Society Building	2	2	0
PHYS 101	General Physics I	4	3	3	ICS 103	Computer Programming	3	2	3
TOTAL		17	16	3	TOTAL		18	15	9

SECOND YEAR

FIRST SEMESTER					SECOND SEMESTER				
CODE	COURSE TITLE	Cr.	Lect.	Lab.	CODE	COURSE TITLE	Cr.	Lect.	Lab.
CHEM 102	General Chemistry II	4	3	3	CHEM 262	Chemical Thermodynamics	3	3	0
CHEM 115	Instruments and Lab. Safety	1	1	0	CHEM 274	Organic Chemistry II	2	2	0
CHEM 273	Organic Chemistry I	2	2	0	CHEM 275	Practical Organic Chemistry I	2	0	6
CHEM 286	Chemistry of Main Group Elements	2	2	0	CHEM 287	Chemistry of Transition Metals	2	2	0
CHEM 293	Volumetric and Gravimetric Analysis	4	3	3	CHEM 294	Methods of Spectroscopic Analysis	2	2	0
ENGL 102	English Composition II	3	3	0	IC 104	Basics of Political System	2	2	0
IC 103	Economic System in Islam	2	2	0	MATH 200	Mathematics	2	2	0
					PHYS 201	General Physics for Scientist	2	2	0
TOTAL		18	16	6	TOTAL		17	15	6

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Study Plan for the Bachelor Degree in CHEMISTRY

THIRD YEAR

FIRST SEMESTER					SECOND SEMESTER				
CODE	COURSE TITLE	Cr.	Lect.	Lab.	CODE	COURSE TITLE	Cr.	Lect.	Lab.
CHEM xxx	Elective (1)	2	2	0	CHEM xxx	Elective (2)	2	2	0
CHEM 310	Nano-Chemistry	2	2	0	CHEM xxx	Elective (3)	2	2	0
CHEM 366	Electrochemistry	2	2	0	CHEM 312	Biochemistry	2	2	0
CHEM 367	Practical Physical Chemistry I	2	0	4	CHEM 368	Chemical Kinetics	2	2	0
CHEM 371	Organic Reaction Mechanism	2	2	0	CHEM 376	Organic Spectroscopy	2	2	0
CHEM 385	Coordination Chemistry	3	2	3	CHEM 377	Polymer Chemistry	2	2	0
CHEM 392	Electroanalytical Techniques	2	2	0	CHEM 387	Solid State Chemistry	2	2	0
CHEM 393	Environmental Analysis	2	2	0	CHEM 394	Practical Instrumental Analysis	2	0	4
TOTAL		17	14	7	TOTAL		16	14	4

FOURTH YEAR

FIRST SEMESTER					SECOND SEMESTER				
CODE	COURSE TITLE	Cr.	Lect.	Lab.	CODE	COURSE TITLE	Cr.	Lect.	Lab.
CHEM xxx	Elective (4)	2	2	0	CHEM xxx	Elective (5)	2	2	0
CHEM 461	Quantum Chemistry	2	2	0	CHEM 466	Surface and Catalysis	2	2	0
CHEM 470	Heterocyclic Chemistry	2	2	0	CHEM 467	Practical Physical Chemistry II	2	0	6
CHEM 478	Practical Organic Chemistry II	2	0	6	CHEM 479	Petrochemicals	2	2	0
CHEM 480	Applied Inorganic Chemistry	2	1	3	CHEM 488	Organometallic Chemistry	2	2	0
CHEM 483	Nuclear and Radiation	2	2	0	CHEM 495	Applied Analytical Chemistry	2	1	3
CHEM 493	Chromatographic Separation Methods	2	1	2	CHEM 497	Research Project	3	0	6
TOTAL		14	10	11	TOTAL		15	9	15

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Study Plan for the Bachelor Degree in CHEMISTRY

UNIVERSITY COMPULSORY COURSES (15 hours)					
CODE	COURSE TITLE	Cr.	Lect.	Lab.	PRE-REQUISITE
ARAB 101	Arabic language skills	2	2	0	-
ARAB 102	Arabic Composition	2	2	0	-
ENGL 110	Writing Skills	3	3	0	-
IC 101	Introduction to Islamic culture	2	2	0	-
IC 102	Islamic and Society Building	2	2	0	-
IC 103	Economic System in Islam	2	2	0	-
IC 104	Basics of Political System	2	2	0	-
TOTAL		15	15	0	

FACULTY COMPULSORY COURSES (27 hours)					
CODE	COURSE TITLE	Cr.	Lect.	Lab.	PRE-REQUISITE
BIOL 101	General Biology	4	3	3	-
CHEM 101	General Chemistry I	4	3	3	-
ENGL 101	English Composition I	3	3	0	-
ENGL 102	English Composition II	3	3	0	ENGL 101
ICS 103	Computer Programming	3	2	3	MATH 101
MATH 101	Calculus I	4	4	0	-
PHYS 100	Renewable Energy	2	2	0	-
PHYS 101	General Physics I	4	3	3	CO- MATH 101
TOTAL		27	23	12	

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COMPULSORY COURSES FOR CHEMISTRY PROGRAM (80 hours)					
CODE	COURSE TITLE	Cr.	Lect.	Lab.	PRE-REQUISITE
MATH 200	Mathematics	2	2	0	MATH 101
PHYS 201	General Physics for Scientist	2	2	0	PHYS 101
CHEM 102	General Chemistry II	4	3	3	CHEM 101
CHEM 115	Instruments and Lab. Safety	1	1	0	CHEM 101
CHEM 262	Chemical Thermodynamics	3	3	0	CHEM 102 CO - MATH 200
CHEM 273	Organic Chemistry I	2	2	0	CO - CHEM 102
CHEM 274	Organic Chemistry II	2	2	0	CHEM 273
CHEM 275	Practical Organic Chemistry I	2	0	6	CHEM 273 CO - CHEM 274
CHEM 286	Chemistry of Main Group Elements	2	2	0	CO - CHEM 102
CHEM 287	Chemistry of Transition Metals	2	2	0	CHEM 286
CHEM 293	Volumetric and Gravimetric Analysis	4	3	3	CO - CHEM 102
CHEM 294	Methods of Spectroscopic Analysis	2	2	0	CHEM 293
CHEM 310	Nano-Chemistry	2	2	0	CHEM 102
CHEM 312	Biochemistry	2	2	0	CHEM 274
CHEM 366	Electrochemistry	2	2	0	CHEM 262
CHEM 367	Practical Physical Chemistry I	2	0	4	CHEM 262 CO - CHEM 366
CHEM 368	Chemical Kinetics	2	2	0	CHEM 262
CHEM 371	Organic Reaction Mechanism	2	2	0	CHEM 274
CHEM 376	Organic Spectroscopy	2	2	0	CHEM 274
CHEM 377	Polymer Chemistry	2	2	0	CHEM 371
CHEM 385	Coordination Chemistry	3	2	3	CHEM 287
CHEM 387	Solid State Chemistry	2	2	0	CHEM 286
CHEM 392	Electroanalytical Techniques	2	2	0	CHEM 293
CHEM 393	Environmental Analysis	2	2	0	CHEM 294
CHEM 394	Practical Instrumental Analysis	2	0	4	CHEM 294 & CHEM 392
CHEM 461	Quantum Chemistry	2	2	0	CHEM 262
CHEM 466	Surface and Catalysis	2	2	0	CHEM 262 CO - CHEM 368
CHEM 467	Practical Physical Chemistry II	2	0	6	CHEM 368 CO - CHEM 466

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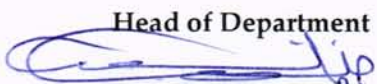
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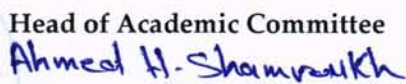




COMPULSORY COURSES FOR CHEMISTRY PROGRAM (80 hours)					
CODE	COURSE TITLE	Cr.	Lect.	Lab.	PRE-REQUISITE
CHEM 470	Heterocyclic Chemistry	2	2	0	CHEM 371 & CHEM 376
CHEM 478	Practical Organic Chemistry II	2	0	6	CO - CHEM 470
CHEM 479	Petrochemicals	2	2	0	CHEM 274
CHEM 480	Applied Inorganic Chemistry	2	1	3	CHEM 385
CHEM 483	Nuclear and Radiation	2	2	0	CHEM 286 & CHEM 368
CHEM 488	Organometallic Chemistry	2	2	0	CHEM 385
CHEM 493	Chromatographic Separation Methods	2	1	2	CHEM 394
CHEM 495	Applied Analytical Chemistry	2	1	3	CHEM 493
CHEM 497	Research Project	3	0	6	100 Earned Credit Hours and Department Approval
TOTAL		80	61	49	

Head of Department

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Study Plan for the Bachelor Degree in CHEMISTRY

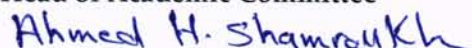
ELECTIVE COURSES FOR CHEMISTRY (10 hours)					
CODE	COURSE TITLE	Cr.	Lect.	Lab.	PRE-REQUISITE
CHEM 314	Green Chemistry	2	2	0	CHEM 274
CHEM 318	Biochemistry II	2	2	0	CHEM 312
CHEM 319	Industrial Chemistry	2	2	0	CHEM 102
CHEM 369	Physical Chemistry of Polymers	2	2	0	CHEM 262 CO - CHEM 377
CHEM 381	Symmetry and Point Group Theory	2	2	0	CHEM 387
CHEM 395	Water Treatment	2	2	0	CHEM 294
CHEM 413	Statistics for Chemists	2	2	0	MATH 101
CHEM 465	Applied Physical Chemistry	2	2	0	CHEM 366
CHEM 468	Colloid Chemistry	2	2	0	CHEM 262 CO - CHEM 368
CHEM 473	Natural Products	2	2	0	CHEM 274
CHEM 476	Advanced Organic Synthesis	2	2	0	CHEM 274
CHEM 487	Bioinorganic Chemistry	2	2	0	CHEM 385
CHEM 489	Cluster Chemistry	2	2	0	CHEM 385
CHEM 498	Drug Analysis	2	2	0	CO - CHEM 493

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