

**Kingdom of Saudi Arabia
Ministry of Education
Majmaah University
College of Education - Zulfi
Department of Chemistry
Study plan of Chemistry program**



Table 1 Percentages' Courses

No.	Module	Percentage
1	Education Skills	18.05%
2	General Sciences	10.41%
3	Chemical Sciences	59.02%
	Compulsory(University elective studies)	8.33%
5	Practical Training	4.16%

The portion of elective studies is 8.33 %. The student may include any courses taught at MU in the elective studies.

Table 2 Courses Requirement

Requirement	Type	Total credit hour	Percentage	ECST
University	Compulsory	12	8.33%	20.4
	Optional	26	-	
College	Compulsory	32	22.22%	54.4
	Optional	-	-	
Department	Compulsory	100*	69.44%	170
	Optional	-	-	
Free Courses		-	-	
Total hours and percentage		144	100%	244

Table 3 University Requisite

No.	Code	Course	Credit Hours				Prerequisite	Observations
			Theoretical	Practical	Training	Total		
1	SALM 101	Introduction to Islamic Culture	2	0	0	2	-----	6 Hours Selecting 3 from 4
2	SALM 102	Islam and Society	2	0	0	2	-----	
3	SALM 103	Economic System in Islam	2	0	0	2	-----	
4	SALM 104	The Basics of the Political System in Islam	2	0	0	2	-----	
5	AR AB 101	Arabic language skills	2	0	0	2	-----	2 Hours Selecting 1 from 2
6	AR AB 103	Arabic editing	2	0	0	2	-----	
7	SOCI 101	Contemporary Social Issues	2	0	0	2	-----	4 Hours Selecting 2 from 7
8	ENT 101	Business Leadership	2	0	0	2	-----	
9	FCH 101	Family and Childhood	2	0	0	2	-----	
10	HAF 101	The basics of Health and Fitness	2	0	0	2	-----	
11	LHR 101	Laws and Human Rights	2	0	0	2	-----	
12	VOW 101	Voluntary Work	2	0	0	2	-----	
13	ENG 101	English language	2	0	0	2	-----	
Total Number of Credit hours			26					

Table 4 Compulsory College Requisites

NO.	CODE	SUBJECT	CREDIT HOURS				Prerequisite
			Theoretical	Practical	Training	Total	
1	EDU 116	Teaching techniques and Communication skills	2	0	0	2	
2	EDU 117	Fundamentals of Islamic Education	2	0	0	2	
3	EDU 118	The System and Policy of Education in KSA	2	0	0	2	
4	EDU 126	Developmental Psychology	2	0	0	2	
5	EDU 216	Psychological Health	2	0	0	2	EDU 126
6	EDU 217	Principles of Educational Research	2	0	0	2	
7	EDU 226	Educational Psychology	2	0	0	2	EDU 126
8	EDU316	Administration and Educational Planning	2	0	0	2	
9	EDU317	Production of E-learning	2	0	0	2	EDU 116
10	EDU 326	Teaching Strategies	2	0	0	2	
11	EDU 327	Curricula	2	0	0	2	
12	EDU 416	Modern Trends in Teaching Strategies	2	0	0	2	EDU 326
13	EDU 417	Educational Evaluation	2	0	0	2	
14	EDU426	Practicum	6	0	0	6	120 Successful Hours. EDU 416 EDU 417
Total Number of Credit hours			32				

Table 5 Compulsory Department Requisites

No.	Code	Course	Semester F=First S=Second	Credits hours				Prerequisite
				Theoretical	Practical	Training	Total	
1	CHEM111	general chemistry (1)	F	1	1	0	2	
2	MATH 111	Calculus(1)	F	1	1	0	2	
3	PHYS 111	General physics (1)	F	1	1	0	2	
4	CHEM121	Organic chemistry (1)	S	3	1	0	4	
5	CHEM122	Inorganic chemistry (main group elements)	S	2	0	0	2	
6	COMP125	Introduction to computer	S	2	1	0	3	
7	MATH123	Introduction to differential equations	S	2	1	0	3	MATH 111
8	STAT 101	Biostatistics	S	1	1	0	2	
9	CHEM211	Organic chemistry 2	F	3	1	0	4	CHEM121
10	CHEM212	Physical chemistry- Phase Rule	F	1	1	0	2	
11	CHEM213	General chemistry 2	F	2	1	0	3	CHEM111
12	PHYS 123	General physics 2	F	2	1	0	3	PHYS 111
13	CHEM221	Heterocyclic Compounds chemistry	S	2	2	0	4	CHEM211
14	CHEM222	Quantum Chemistry (1)	S	2	0	0	2	MATH 123
15	CHEM223	Physical organic chemistry	S	2	0	0	2	CHEM. 211
16	CHEM224	Descriptive Analytical Chemistry	S	2	1	0	3	
17	CHEM225	Electro-Reversible Chemistry 1	S	2	1	0	3	
18	CHEM311	Quantum Chemistry (2)	F	2	0	0	2	CHEM222
19	CHEM312	Thermodynamic chemistry	F	2	1	0	3	
20	CHEM314	organic chemistry (polymers and patrol)	F	2	1	0	3	CHEM 211
21	CHEM315	Quantitative Analytical Chemistry	F	2	1	0	3	CHEM224

22	CHEM316	Physical Chemistry (Surfaces, Colloid s & Catalysis)	F	2	1	0	3	
23	CHEM321	Biochemistry 1	S	2	1	0	3	
24	CHEM322	inorganic chemistry(transition elements)	S	4	0	0	4	CHEM 122
25	CHEM323	Electro-Reversible Chemistry 2	S	3	1	0	4	CHEM 225
26	CHEM324	Coordination chemistry	S	2	1	0	3	CHEM 122
27	CHEM411	Instrumental Analysis Chemistry	F	3	1	0	4	
28	CHEM412	Kinetic Chemistry	F	2	1	0	3	CHEM 312
29	CHEM413	Dyes chemistry	F	3	1	0	4	CHEM 221
30	CHEM414	Biochemistry 2	F	2	1	0	3	CHEM 321
31	CHEM421	Natural Products Chemistry	S	2	1	0	3	CHEM221
32	CHEM 422	Chemistry of organic reactions mechanisms	S	2	0	0	2	CHEM211
33	CHEM423	organic chemistry (Organic Compounds Spectra)	S	3	1	0	4	CHEM411
34	CHEM 424	Nuclear and Radiation Chemistry	S	3	0	0	3	
Total Number of EUC Credits hours				100 Credits hours				

Table 6 Suggested distribution of courses on levels

Level	Course Code	Course Title	Credit Hours	Prerequisite	College or Department
Level 1	EDU 116	general chemistry (1)	(1+1+0)2		Department
	EDU 117	Teaching techniques and Communication skills	(2+0+0)2		College
	EDU 118	Fundamentals of Islamic Education	(2+0+0)2		College
	MATH 111	The System and Policy of Education in KSA	(2+0+0)2		College
	PHYS 111	Calculus(1)	(1+1+0)2		Department
	EDU 116	General physics (1)	(1+1+0)2		Department
		University requirement	(2+0+0)2		University
		University requirement	(2+0+0)2		University
		University requirement	(2+0+0)2		University
Level 2	CHEM121	Organic chemistry (1)	(3+1+0)4		Department
	CHEM122	Inorganic chemistry (main group elements)	(2+0+0)2		Department
	COMP125	Introduction to computer	(2+1+0)3		Department
	EDU 126	Developmental Psychology	(2+0+0)2		College
	MATH123	Introduction to differential equations	(2+1+0)3	MATH 111	College
	STAT 101	Biostatistics	(1+1+0)2		Department
		University requirement	(2+0+0)2		University
Level 3	CHEM211	Organic chemistry 2	(3+1+0)4	CHEM121	Department
	CHEM212	Physical chemistry- Phase Rule	(1+1+0)2		Department
	CHEM213	General chemistry 2	(2+1+0)3	CHEM111	Department
	EDU 216	Psychological Health	(2+0+0)2	EDU 126	College
	EDU 217	Principles of Educational Research	(2+0+0)2		College
	PHYS 123	General physics 2	(2+1+0) 3	PHYS 111	Department
		University requirement	(2+0+0)2		University
Level 4	CHEM221	Heterocyclic Compounds chemistry	(2+2+0)4	CHEM211	Department
	CHEM222	Quantum Chemistry (1)	(2+0+0)2	MATH 123	Department

	CHEM223	Physical organic chemistry	(2+0+0)2	CHEM. 211	Department
	CHEM224	Descriptive Analytical Chemistry	(2+1+0)3		Department
	Course Code	Course Title	Credit Hours	Prerequisite	College or Department
	CHEM225	Electro-Reversible Chemistry 1	(2+1+0)3		Department
	EDU 226	Educational Psychology	(2+0+0)2	EDU126	College
		University requirement	(2+0+0)2		University
Level 5	CHEM311	Quantum Chemistry (2)	(2+0+0)2	CHEM 22	Department
	CHEM312	Thermodynamic chemistry	(2+1+0)3		Department
	CHEM314	organic chemistry (polymers and patrol)	(2+1+0)3	CHEM211	Department
	CHEM315	Quantitative Analytical Chemistry	(2+1+0)3	CHEM224	Department
	CHEM316	Physical Chemistry (Surfaces, Colloid s & Catalysis)	(2+1+0)3		Department
	EDU316	Administration and Educational Planning	(2+0+0)2		College
	EDU317	Production of E-learning	(2+0+0)2		College
Level 6	CHEM321	Biochemistry 1	(2+1+0)3		Department
	CHEM322	inorganic chemistry(transition elements)	(4+0+0)4	CHEM122	Department
	CHEM323	Electro-Reversible Chemistry 2	(3+1+0)4	CHEM 225	Department
	CHEM324	Coordination chemistry	(2+1+0)3	CHEM 122	Department
	EDU 326	Teaching Strategies	(2+0+0)2		Department
	EDU 327	Curricula	(2+0+0)2		Department
Level 7	CHEM411	Instrumental Analysis Chemistry	(3+1+0)4		Department
	CHEM412	Kinetic Chemistry	(2+1+0)3	CHEM 312	Department
	CHEM413	Dyes chemistry	(3+1+0)4	CHEM 221	Department
	CHEM414	Biochemistry 2	(2+1+0)3	CHEM 321	Department
	EDU 416	Modern Trends in Teaching Strategies	(2+0+0)2	EDU 326	College
	EDU 417	Educational Evaluation	(2+0+0)2		College
Level 8	CHEM421	Natural Products Chemistry	(2+1+0)3	CHEM221	Department
	CHEM 422	Chemistry of organic	(2+0+0)2	CHEM211	Department

		reactions mechanisms			
	EDU426	Practicum	(0+0+6)6	EDU 326.416	College
	CHEM423	organic chemistry (Organic Compounds Spectra)	(3+1+0)4	CHEM411	Department
	CHEM 424	Nuclear and Radiation Chemistry	(3+0+0)3		Department

Study Plan of Chemistry Program



University Requirement

College Requirement

Department Requirement

Pre-requisite

Credit hours

Course Code

Course Name

CHEM413

4

Dyes chemistry

First Year

First Year

Second Year

Third Year

Forth Year

1st

1st

2nd

2nd

1st

2nd

1st

2nd

1st

2nd

CHEM 111 2
general chemistry

PHYS 111 2
General physics (1)

EDU 116 2
Teaching techniques
and Communication

MATH 111 2
Calculus(1)

EDU 117 2
Fundamentals of
Islamic Education

EDU 118 2
The System and Policy
of Education in KSA

University
requirement. 2

University
requirement 2

University
requirement 2

CHEM121 4
Organic chemistry

COMP125 3
Introduction to

CHEM122 2
main group elements

EDU 126 2
Developmental
Psychology

MATH123 3
Introduction to
differential equations

STAT 101 2
Biostatistics

University
requirement 2

CHEM211 4
Organic chemistry 2

CHEM212 2
Physical chemistry-
Phase Rule

CHEM213 3
General chemistry 2

EDU 216 2
Psychological Health

EDU 217 2
Principles of
Educational Research

University
requirement 2

PHYS 123 3
General physics 2

CHEM221 4
Heterocyclic
Compounds chemistry

CHEM222 2
Quantum Chemistry1

CHEM223 2
Physical organic
chemistry

CHEM224 3
Descriptive
Analytical Chemistry

CHEM225 3
Electro-Reversible
Chemistry 1

EDU 226 2
Educational Psychology

University
requirement 2

CHEM311 2
Quantum Chemistry (2)

CHEM312 3
Thermodynamic
chemistry

CHEM314 3
(oolymers and patrol)

CHEM315 3
Quantitative
Analytical Chemistry

CHEM316 3
Surfaces, Colloid s &
Catalysis

EDU316 2
Administration and
Educational Planning

EDU317 2
Production
E-learning

CHEM321 3
Biochemistry 1

CHEM322 4
transition elements

CHEM324 3
Coordination

CHEM323 4
Electro-Reversible
Chemistry 2

EDU 326 2
Teaching Strategies

EDU 327 2
Curricula

CHEM414 3
Biochemistry 2

CHEM412 3
Kinetic Chemistry

CHEM413 4
Dyes chemistry

CHEM411 4
Instrumental
Analysis Chemistry

EDU 416 2
Modern Trends in
Teaching Strategies

EDU 417 2
Educational
Evaluation

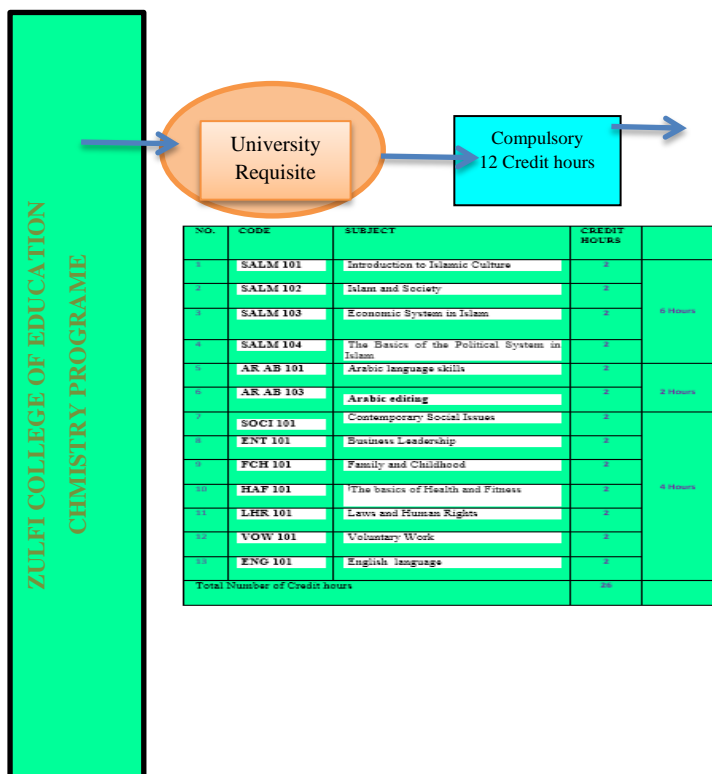
CHEM421 3
Natural Products
Chemistrv

CHEM 422 2
Chemistry of organic
reactions mechanisms

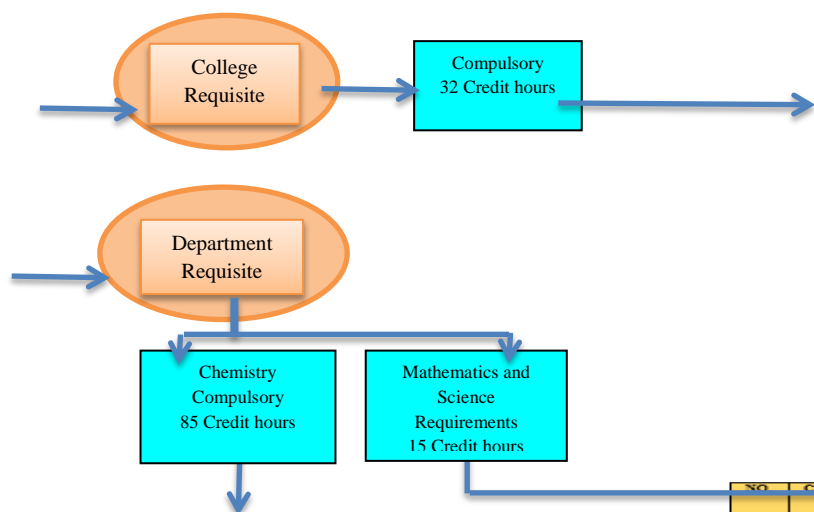
CHEM423 4
Organic Compounds
Spectra

CHEM 424 3
Nuclear and
Radiation Chemistrv

EDU426 6
Field education



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NO.	CODE	SUBJECT	CREDIT HOURS
1	EDU 116	Teaching techniques and Communication skills	2
2	EDU 117	Fundamentals of Islamic Education	2
3	EDU 118	The System and Policy of Education in KSA	2
4	EDU 126	Developmental Psychology	2
5	EDU 116	Psychological Health	2
6	EDU 117	Principles of Educational Research	2
7	EDU 226	Educational Psychology	2
8	EDU316	Administration and Educational Planning	2
9	EDU317	Production of E-learning	2
10	EDU 326	Teaching Strategies	2
11	EDU 327	Curricula	2
12	EDU 416	Modern Trends in Teaching Strategies	2
13	EDU 417	Educational Evaluation	2
14	EDU426	Field education	6
Total Number of Credit hours			32

NO.	CODE	SUBJECT	CREDIT HOURS
1	CHEM111	general chemistry (1)	2
2	CHEM121	Organic chemistry (1)	4
3	CHEM122	Inorganic chemistry (main group elements)	2
4	CHEM211	Organic chemistry 2	4
5	CHEM212	Physical chemistry- Phase Rule	2
6	CHEM213	General chemistry 2	3
7	CHEM221	Heterocyclic Compounds chemistry	4
8	CHEM222	Quantum Chemistry (1)	2
9	CHEM223	Physical organic chemistry	2
10	CHEM224	Descriptive Analytical Chemistry	3
11	CHEM225	Electro-Reversible Chemistry 1	3
12	CHEM311	Quantum Chemistry (2)	2
13	CHEM312	Thermodynamic chemistry	3

NO.	CODE	SUBJECT	CREDIT HOURS
1	MATH 111	Calculus(1)	2
2	PHYS 111	General physics (1)	2
3	COMP125	Introduction to computer	3
4	MATH123	Introduction to differential equations	3
5	STAT 101	Biostatistics	2
6	PHYS 123	General physics 2	3
Total Number of Credit hours			15

Study plan of Chemistry program

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14	CHEM314	organic chemistry (polymers and petro)	3
15	CHEM315	Quantitative Analytical Chemistry	3
16	CHEM316	Physical Chemistry (Surfaces, Colloid s & Catalysis)	3
17	CHEM321	Biochemistry 1	3
18	CHEM322	inorganic chemistry(transition elements)	4
19	CHEM323	Electro-Reversible Chemistry 1	4
20	CHEM324	Coordination Chemistry	3
21	CHEM411	Instrumental Analysis Chemistry	4
22	CHEM412	Kinetic Chemistry	3
23	CHEM413	Dyes chemistry	4
24	CHEM414	Biochemistry 2	3
25	CHEM421	Natural Products Chemistry	3
26	CHEM 422	Chemistry of organic reactions mechanisms	2
27	CHEM423	organic chemistry (Organic Compounds Spectra)	4
28	CHEM 424	Nuclear and Radiation Chemistry	3
Total Number of Credit hours			88

