

## FACULTY: MATHEMATICS AND NATURAL SCIENCES

DEPARTMENT: CHEMISTRY

PROGRAMME: MAGISTER (S2)

### 1. Analytical Chemistry

#### COURSE STRUCTURE

No.	Code	Course Title	Credits
<b>SEMESTER I</b>			
1	SK142201	Research Methodology	3
2	SK142311	Chemical Instrumentation	2
3	SK142312	Electroanalysis	2
4	SK142313	Separation and Speciation	2
		Total Credits	9
<b>SEMESTER II</b>			
1	SK142314	Information Technology in Chemistry	2
2	SK142315	Bioanalytical Chemistry	2
3	SK142316	Techniques of Chemical Measurements	3
4	SK142317	Micro Projects	2
		Total Credits	9
<b>SEMESTER III</b>			
1	SK142501	Pre Thesis	2
2	SK142318	Electrochemical Sensors	2
3	SK1424...	Electives	6
		Total Credits	10
<b>SEMESTER IV</b>			
1	SK142502	Thesis	6
2	SK1424...	Electives	2
3		Total Credits	8

#### ELECTIVE COURSES

No.	Code	Course Title	Credits
1	SK142411	Miscellaneous Techniques in Analytical Chemistry	2
2	SK142412	Thermal Analysis	2
3	SK142413	Conducting Polymers	2
4	SK142414	Nano Materials for Sensor	2
5	SK142415	Corrosion Analysis	2

## 2. Inorganic Chemistry

### COURSE STRUCTURE

No.	Code	Course Title	Credits
<b>SEMESTER I</b>			
1	SK142201	Research Methodology	3
2	SK142321	Structure, Properties and Reactivities of Inorganic Compounds	3
3	SK142341	Solid State Spectroscopy	3
		Total Credits	9
<b>SEMESTER II</b>			
1	SK142322	Structural Characterization of Solid State Materials	3
2	SK142323	Physical Inorganic Chemistry	2
3	SK142324	Properties and Performance of Materials	2
4	SK142325	Inorganic Solids	2
		Total Credits	9
<b>SEMESTER III</b>			
1	SK142501	Pre Thesis	2
2	SK1424...	Electives	8
		Total Credits	10
<b>SEMESTER IV</b>			
1	SK142502	Thesis	6
2	SK1424...	Electives	2
3		Total Credits	8

### ELECTIVE COURSES

No.	Code	Course Title	Credits
1	SK142421	Organometallic Chemistry	2
2	SK142423	Catalysis	2
3	SK142424	Coordination Chemistry	2
4	SK142425	Bioinorganic Chemistry	2
5	SK142426	Porous Materials	2
6	SK142427	Ceramic Chemistry	2
7	SK142428	Advance Inorganic Synthesis	2
8	SK144422	Materials for Energy Storage	2

### 3. Biochemistry

#### COURSE STRUCTURE

No.	Code	Course Title	Credits
<b>SEMESTER I</b>			
1	SK142201	Research Methodology	3
2	SK142331	Bioinformatics	3
3	SK142332	Advance Biochemistry	3
		Total Credits	9
<b>SEMESTER II</b>			
1	SK142333	Metabolism of Microorganisms	3
2	SK142334	Biosynthesis	3
3	SK14243..	Electives	3
		Total Credits	9
<b>SEMESTER III</b>			
1	SK142501	Pre Tesis	2
2	SK14243..	Electives	8
3		Total Credits	10
<b>SEMESTER IV</b>			
1	SK142502	Thesis	6
2	SK1424...	Electives	2
		Total Credits	8

#### ELECTIVE COURSES

No.	Code	Course Title	Credits
1	SK142432	Biodegradation	3
2	SK142434	Food Science	2
3	SK144431	Fermentation	3
4	SK144433	Bioassay	3
5	SK144436	Enzymology	3

## 4. Physical Chemistry

### COURSE STRUCTURE

No.	Code	Course Title	Credits
<b>SEMESTER I</b>			
1	SK142201	Research Methodology	3
2	SK142321	Molecular Reaction Dynamics	3
3	SK142341	Solid State Spectroscopy	3
		Total Credits	9
<b>SEMESTER II</b>			
1	SK142343	Statistical Thermodynamics	3
2	SK142344	Quantum Chemistry	3
3	SK1424....	Electives	4
		Total Credits	10
<b>SEMESTER III</b>			
1	SK142501	Pre Thesis	2
2	SK1424...	Electives	7
3		Total Credits	9
<b>SEMESTER IV</b>			
1	SK142502	Thesis	6
2	SK1424...	Electives	2
		Total Credits	8

### ELECTIVE COURSES

No.	Code	Course Title	Credits
1	SK142441	Surface Structure and Analysis	3
2	SK142443	Synthesis of Membrane	2
3	SK142444	The Chemistry of Building Materials	2
4	SK144445	Photochemistry	2
5	SK142446	Functional Polymers	3
6	SK142447	Chemicals Industry Processes	3

## 5. Organic Chemistry

### COURSE STRUCTURE

No.	Code	Course Title	Credits
<b>SEMESTER I</b>			
1	SK142201	Research Methodology	3
2	SK142351	Structural Elucidation of Organic Compounds	3
3	SK142352	Physical Organic Chemistry	3
		Total Credits	9
<b>SEMESTER II</b>			
1	SK142353	Advanced Organic Synthesis	3
2	SK142354	Chemistry of Organic Natural Products	3
3	SK142355	Organic Geochemistry	3
		Total Credits	9
<b>SEMESTER III</b>			
1	SK142501	Pre Thesis	2
2	SK1424...	Electives	8
4		Total Credits	10
<b>SEMESTER IV</b>			
1	SK142502	Thesis	6
2	SK1424...	Electives	2
		Total Credits	8

### ELECTIVE COURSES

No.	Code	Course Title	Credits
1	SK142454	The Chemistry of Essential Oils	2
2	SK142455	Medicinal Chemistry	2
3	SK142456	Green Chemistry	2
4	SK144451	Chemistry of Phenolic Compounds	2
5	SK144452	Colour Chemistry	2
6	SK144453	Petroleum Chemistry	2
7	SK144459	Aromatic Heterocyclic Chemistry	2

## 6. Chemistry Education

### COURSE STRUCTURE

No.	Code	Course Title	Credits
<b>SEMESTER I</b>			
1	SK142201	Research Methodology	3
2	SK142203	Philosophy of Chemistry	2
3	SK142360	Process and Control of Chemical Reactions	3
4	SK142361	Molecular Modelling in Chemistry Education	2
		Total Credits	10
<b>SEMESTER II</b>			
1	SK142362	Synthesis and Characterization of Organic Compounds	2
2	SK142363	Synthesis and Characterization of Inorganic Compounds	2
3	SK142364	Principles of Separation and Purification	2
4	SK142365	Instrumental Chemistry for Education	2
		Total Credits	8
<b>SEMESTER III</b>			
1	SK142366	Laboratory Organization and Management	2
2	SK142367	Information Technology in Chemistry Education	2
3	SK142368	Teaching Techniques in Chemistry Education	3
4	SK142501	Pre Tesis	2
		Total Credits	9
<b>SEMESTER IV</b>			
1	SK142369	Chemistry Teaching through Internationally Oriented Curricula	3
2	SK142502	Thesis	6
		Total Credits	9