جامعة اليرموك
Yarmouk University
اسم الكلية
Faculty

Document Code	Study Plan	Document Approval Date
AP02-PR04		

Department: Chemistry	Program: Master Degree in Chemistry Thesis Track	Official Stamp
The study plan was approved by the decision of the Deans' Council no. ..... on		

Overview
Teaching began in the Chemistry Department in the academic year 1976/1977, at which time, graduating students were granted a Bachelor's degree in Chemistry. In view of the increasing need for postgraduate studies, the Master's program was created in the year 1982. Graduates receive a Master's degree in the disciplines of organic, inorganic, analytical and physical chemistry.

Vision and Mission	
Vision	That the Chemistry Department be outstanding and a pioneer in its undergraduate and Master's study plans, which must keep pace with the requirements of the modern era, as well as recruiting distinguished teaching and research faculty members to meet the needs of the community and the labor market with distinguished and well-qualified chemical expertise.
Mission	Preparing qualified graduates with knowledge and creativity in the field of chemistry who are able to interact with the requirements of the scientific and technological era and contribute to building the Jordanian society on sound scientific and ethical foundations.

Program Objective	
1	To provide the graduates with knowledge in all fields of chemistry and deepen their understanding of the methodology of analysis and criticism of scientific research and use these skills to explain scientific phenomena.
2	To provide the graduates with scientific and research skills that enable them to succeed in graduate programs and help them in their career, whether in teaching or other fields such as industry.
3	Training on a wide range of experimental techniques using modern scientific equipment.
4	Developing the skills of using modern research sources to enable students to build the necessary scientific skills such as scientific writing and the skill of discussion and constructive criticism and scientific communication skill.

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Program Learning Outcomes PLOs	
PLO1	An ability to identify, formulate, and solve broadly defined technical or scientific problems by applying knowledge of mathematics and science and/or technical topics to areas relevant to the discipline.
PLO2	An ability to formulate or design a system, process, procedure or program to meet desired needs.
PLO3	An ability to develop and conduct experiments or test hypotheses, analyze and interpret data and use scientific judgment to draw conclusions.
PLO4	An ability to communicate effectively with a range of audiences.
PLO5	An ability to understand ethical and professional responsibilities and the impact of technical and/or scientific solutions in global, economic, environmental, and societal contexts.
PLO6	An ability to function effectively on teams that establish goals, plan tasks, meet deadlines, and analyze risk and uncertainty.

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Semester offered:-			
Course Code	**Course No.**	**Course Name**	**Semester**
CHEM	611	Advanced Organic Chemistry (1) (Structure and Mechanism of Reactions)	First Semester
CHEM	621	Chemical Applications of Group Theory	First Semester
CHEM	633	Atomic Spectrometric Methods of Analysis	First Semester
CHEM	642	Chemical Kinetics	First Semester
CHEM	612	Advanced Organic Chemistry (2) (Synthesis and Reactions)	Second Semester
CHEM	622	Advanced Transition Metals Chemistry	Second Semester
CHEM	631	Analytical Separation Methods	Second Semester
CHEM	641	Molecular Structure and Spectroscopy	Second Semester

First: University Compulsory Courses (15) Credit Hours						
Course Code	**Course No.**	**Course Name**	**Number of Credit Hours**			**Pre-requisite**
			Theoretical	**Practical**	**Total**	
CHEM	611	Advanced Organic Chemistry (1) (Structure and Mechanism of Reactions)	3	–	3	–
CHEM	612	Advanced Organic Chemistry (2) (Synthesis and Reactions)	3	–	3	–
CHEM	621	Chemical Applications of Group Theory	3	–	3	–
CHEM	631	Analytical Separation Methods	3	–	3	–
CHEM	641	Molecular Structure and Spectroscopy	3	–	3	–

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Second: University Elective Courses (9) Credit Hours						
Course Code	Course No.	Course Name	Number of Credit Hours			Pre-requisite
			Theoretical	Practical	Total	
CHEM	613	Chemistry of Heterocyclic Compounds	3	–	3	–
CHEM	618	Chemistry of Natural Products	3	–	3	–
CHEM	622	Advanced Transition Metals Chemistry	3	–	3	–
CHEM	624	Transition Metals and Catalysis	3	–	3	–
CHEM	633	Atomic Spectrometric Methods of Analysis	3	–	3	–
CHEM	636	Methods of Chemical Analysis	3	–	3	–
CHEM	642	Chemical Kinetics	3	–	3	–
CHEM	652	Environmental Chemistry	3	–	3	–
CHEM	691	Special Topics in Organic Chemistry	3	–	3	–
CHEM	692	Special Topics in In Organic Chemistry	3	–	3	–
CHEM	693	Special Topics in Analytical Chemistry	3	–	3	–
CHEM	694	Special Topics in Physical Chemistry	3	–	3	–

Third: Preparation, presentations and successful defense of thesis Chem. 699 (9) Credit Hours						
Course Code	Course No.	Course Name	Number of Credit Hours			Pre-requisite
			Theoretical	Practical	Total	
CHEM	699 A	Thesis	0	–	0	–
CHEM	699 B	Thesis	3	–	3	–
CHEM	699 C	Thesis	6	–	6	–
CHEM	699 D	Thesis	9	–	9	–