

## **Study Plan for the Master of Science Degree in Chemistry / Thesis Track**

- I. The applicant for this program should be:
1. Holding a B.Sc. degree in Chemistry or any equivalent program.
  2. Passing the Foreign language according to the regulations of higher council.
- II. The Chemistry Department at Yarmouk University offers a Master of Science Degree in Chemistry on the completion of the following requirements :
1. The fulfillment of the conditions stated in the regulations of awarding the master degree at Yarmouk University No. (3) for the year 2011.
  2. Completion of remedial courses which the department sets.
  3. Completion of the study of (24) credit hours of the (600) level courses distributed as follows :
    - a. **Obligatory Courses (15 credit hours) :**

**Table No. (1) : Obligatory Courses (15 credit hours)**

| <b>Course No.</b> | <b>Title</b>   | <b>Credit Hours</b> |
|-------------------|--|---------------------|
| Chem. 611         | Advanced Organic Chemistry (I)<br>(Structure and Mechanism of Reactions) | 3                   |
| Chem. 612         | Advanced Organic Chemistry (II)<br>(Synthesis and Reactions)             | 3                   |
| Chem. 621         | Chemical Applications of Group Theory                                    | 3                   |
| Chem. 631         | Analytical Separation Methods  | 3                   |
| Chem. 641         | Molecular Structure and Spectroscopy                                     | 3                   |

**b. Elective Courses (9 credit hours) :**

**Table No. (2) : Elective Courses (9 credit hours)**

| <b>Course No.</b> | <b>Title</b>                             | <b>Credit Hours</b> |
|-------------------|--|---------------------|
| Chem. 613         | Chemistry of Heterocyclic Compounds      | 3                   |
| Chem. 618         | Chemistry of Natural Products            | 3                   |
| Chem. 622         | Advanced Transition Metals Chemistry     | 3                   |
| Chem. 624         | Transition Metals and Catalysis          | 3                   |
| Chem. 633         | Atomic Spectrometric Methods of Analysis | 3                   |
| Chem. 636         | Methods of Chemical Analysis             | 3                   |
| Chem. 642         | Chemical Kinetics                        | 3                   |
| Chem. 652         | Environmental Chemistry                  | 3                   |
| Chem. 691         | Special Topics in Organic Chemistry      | 3                   |
| Chem. 692         | Special Topics in Inorganic Chemistry    | 3                   |
| Chem. 693         | Special Topics in Analytical Chemistry   | 3                   |
| Chem. 694         | Special Topics in Physical Chemistry     | 3                   |

**c. Preparation, presentations and successful defense of thesis Chem. 699 (9 credit hours) :**

**Table No. (3) : Credit Hours for Master Thesis**

| <b>Course No.</b> | <b>Title</b> | <b>Credit Hours</b> |
|-------------------|--------------|---------------------|
| Chem. 699 A       | Thesis       | 0                   |
| Chem. 699 B       | Thesis       | 3                   |
| Chem. 699 C       | Thesis       | 6                   |
| Chem. 699 D       | Thesis       | 9                   |

المساقات التي يطرحها قسم الكيمياء لبرنامج الماجستير

| <b>Course No.</b> | <b>Title</b>   | <b>Credit Hours</b> |
|-------------------|--|---------------------|
| Chem. 611         | Advanced Organic Chemistry (I)<br>(Structure and Mechanism of Reactions) | 3                   |
| Chem. 612         | Advanced Organic Chemistry (II)<br>(Synthesis and Reactions)             | 3                   |
| Chem. 613         | Chemistry of Heterocyclic Compounds                                      | 3                   |
| Chem. 618         | Chemistry of Natural Products  | 3                   |
| Chem. 621         | Chemical Applications of Group Theory                                    | 3                   |
| Chem. 622         | Advanced Transition Metals Chemistry                                     | 3                   |
| Chem. 624         | Transition Elements and Catalysis  | 3                   |
| Chem. 631         | Separation Methods   | 3                   |
| Chem. 633         | Atomic Spectrometric Methods of Analysis                                 | 3                   |
| Chem. 636         | Advanced Analytical Methods  | 3                   |
| Chem. 641         | Molecular Structure and Spectroscopy                                     | 3                   |
| Chem. 642         | Chemical Kinetics  | 3                   |
| Chem. 652         | Environmental Chemistry  | 3                   |
| Chem. 691         | Special Topics in Organic Chemistry                                      | 3                   |
| Chem. 692         | Special Topics in Inorganic Chemistry                                    | 3                   |
| Chem. 693         | Special Topics in Analytical Chemistry                                   | 3                   |
| Chem. 694         | Special Topics in Physical Chemistry                                     | 3                   |
| Chem. 699 A       | Thesis   | 0                   |
| Chem. 699 B       | Thesis   | 3                   |
| Chem. 699 C       | Thesis   | 6                   |
| Chem. 699 D       | Thesis   | 9                   |