

## Course Specifications

Programme(s) on which the course is given: Ch., Ch.&P., Ch.&G., Ch.&Z., Ch& B, Ch.&Mbio, Ch. & Insect.

Major or Minor element of programmes:major - major- major - major -major-- major -major

Department offering the programme: Multidisciplinary

Department offering the course Chemistry

Academic year / Level: Second

Prerequisite: CH-145

Date of specification approval: 2013

### A- Basic Information

Title: Aromatic organic chemistry

Code: CH246

Credit Hours: 2 h      Lecture: 1.5 -

Tutorial: 1      Practicals: 2      Total: 2 h

### B- Professional Information

#### 1 – Overall Aims of Course

For students undertaking this course, the aims are to:

- Introduce the basic concepts of Aromatic Chemistry.
- Introduce the major classes of organic aromatic compounds.
- Introduce the principles of nomenclature of major classes of aromatic compounds.
- Study the methods of preparation of major classes of aromatic compounds.
- Study the chemical reactions and their mechanisms of major classes of aromatic compounds.
- Enable the students to use chemical reactions in preparing different aromatic compounds.

#### 2 – Intended Learning Outcomes of Course (ILOs)

##### a- Knowledge and Understanding:

- a1- Define the basic concepts of aromatic chemistry .
- a2- Recognize the different classes of aromatic compounds and their reactivity's.

**a3- Know the nomenclature of aromatic compounds.**

**a4- Know the different reactions mechanism of aromatic preparations**

**b- Intellectual Skills**

**b1-Understand of aromatic structures and suggest an appropriate mechanism for their chemical reactions.**

**b2-Apply the preparation of sulphha drugs from aromatic compounds.**

**b3- Predict products of a hypothetical reaction.**

**c- Professional and Practical Skills: No practical or tutorial hours**

**d- General and Transferable Skills: On completing this course, students will be able to:**

**d1- Work effectively both in a team, and independently on solving problems.**

**d2- Use IT and search for information.**

**d3- Communicate effectively with his teacher and colleagues.**

### **3- Contents**

<b>Topic</b>	<b>No. of hours</b>	<b>Lecture</b>	<b>Tutorial/Practical</b>
<b>Electrophilic substitution in benzene</b>	<b>4</b>	<b>4</b>	<b>-</b>
<b>Aromatic Amines</b>	<b>4</b>	<b>4</b>	<b>-</b>
<b>Aromatic sulphonic acid</b>	<b>4</b>	<b>4</b>	<b>-</b>
<b>Phenol and aromatic halides</b>	<b>4</b>	<b>4</b>	<b>-</b>
<b>Aldehydes and aromatic</b>	<b>4</b>	<b>4</b>	<b>-</b>

<b>ketons</b>			
<b>Aromatic acids</b>	<b>4</b>	<b>4</b>	<b>-</b>
<b>Aromatic amides and esters</b>	<b>4</b>	<b>4</b>	<b>-</b>

#### **4- Teaching and Learning Methods**

**4.1- Lectures using data show and board**

**4.2 - Problem classes and group tutorial**

**4.3 – Home works, Reports and discussion groups**

#### **5- Student Assessment Methods**

**5.1 written examination to assess the understanding**

##### **Assessment Schedule**

**Assessment 1 short exam (class activities)      Every two weeks**

**Assessment 2 mid-term (written)      Week 8**

**Assessment 3 final-term (written)      Week 13**

##### **Weighting of Assessments**

**Mid-Term Examination      20%**

**Final-term Examination      60%**

**Semester Work      20%**

**Total      100%**

#### **6- List of References**

**6.1- Course Notes**

**Prepared in the form of book authorized by department.**

**6.3- Recommended Books**

**Organic Chemistry, John E. McMurry, 5th ed (2000).**

**Websites on the internet that are relevant to the topics of the course:**

**[http://en.wikipedia.org/wiki/Organic\\_chemistry](http://en.wikipedia.org/wiki/Organic_chemistry)**

**[www.chemweb.com](http://www.chemweb.com)**

**<http://www.organic-chemistry.org/>**

**<http://www.acdlabs.com/iupac/nomenclature/>**

**7- Facilities Required for Teaching and Learning**

- **Data show, screen, and laptop computer.**
- **White board and colored pens**

**Course Coordinator: Prof. Dr. / Farag El-Essawy**

**Head of Department: Prof. Dr. / Adel Nassar**

**Date: / /**