Organic chemistry IV

Code : 505

Course specifications

University: Beni-sueif **Faculty:** Pharmacy

Program in which the course is given: Bachelor of pharmaceutical Sciences

Department responsible for offering the course: Department of ph.Organic chemistry

Department responsible for teaching the course: Department of ph.Organic chemistry

Academic year: Second year, first semester

Date of specification Approval: 16/9/2010

A.Basic information

Title: Organic chemistry IV **Code:** 505

Credit hours (#of credit hours/week):

Lecture	2
Practical	3
Total	5

Course coordinator: Dr. Iman Kamal

B. Professional information

1-Overall aims of course:

To ensure that students possess deep knowledge about aromatic compounds (properties, chemistry, reactions and reaction mechanisms). The course also aims to supply students with updated background of organic chemistry and their importance as abase of several courses that taken during subsequent semester.

2- Intended Learning Outcomes (ILOs)

Upon successful completion of this course, students will be able to:

a. Knowledge and Understanding:

a.1. Recognize theory of aromaticity .

a.2. Recognize benzene derivatives such as: phenol, aromatic halogen, nitro compounds, alcohols, aldehydes, ketons and aromatic acids.

a.3. Summarize structures, nomenclature, preparations and reactions of different organic compounds.

b. Intellectual Skills:

b.1. Apply basic spectroscopic concepts and interpret the expected charts of different organic compounds.

b.2. Analyze and interpret chemical features from charts and figures.

b.3. Retrieve and collect chemical information about different organic compounds.

C. professional and practical Skills:

c.1. Synthesize some pharmaceutical organic compounds.

c.2. Use safely appropriate laboratory equipment to operate some practical experiments.

c.3. Determine the chemical and physical properties of certain aromatic compounds.

d. General and Transferable Skills:

d.1. Engage effectively and communicate with other colleagues**.**

d.2. Think critically and derivates conclusion on a scientific basics.

topics	No. of hours	lecture	Tutorial / practical
UV spectrometry	**3**	**3**	**-**
IR spectroscopy	**3**	**3**	**-**
NMR spectroscopy	**3**	**3**	**-**
MS spectroscopy	**3**	**3**	**-**
Aromaticity, aromatic electrophilic Substitution reactions, monocyclic Aromatic hydrocarbons, chemistry of benzenoid, different classes of Benzenoid compounds, synthesis and Reaction mechanisms.	**7**	**3**	**4**
Aromatic halogen compounds, nuclophilic aromatic substituted elimination addition mechanism.	**7**	**3**	**4**

Aromatic nitro-compounds, mechanism of nitration, charge-transfer compounds, aromatic nitroso-compounds, reduction products of nitro-compounds	**6**	**3**	**3**
Aromatic amines, strength of bases, diazonium salts and their related compounds, diazotization, reaction	**6**	**3**	**3**
Aromatic sulphonic acid, monohydric phenols, acid strengths of phenols, aromatic ethers, Calisen rearrangement, quinines, phenols and quinines	**6**	**3**	**3**
Aromatic alcohols, aldehydes, ketons and phenolic aldehydes	**12**	**6**	**6**
Aromatic acids, monocarboxylic acids, strengths of aromatic acids, the ortho effect, side-chain, benzedicarboxylic acid.	**6**	**3**	**3**
Revision and Practical exam.	**6**	**-**	**-**
Total	**62**	**36**	**26**

4. Teaching and Learning Methods:

4.1.Lectures
4.2.Practical sessions
4.3.Visits for central laboratory for IR training
4.4Tutorials

5-Student Assessment Methods

5.1.Practical exam to assess practical skills .
5.2.Written exam to assess theoretical knowledge.
5.3.Oral exam to assess intellectual skills.

Assessment Schedual:

Assessment 1 : practical exam …….week 11 – 12 *

Assessment 2 : Final written exam ……...week 14 – 16 *

Assessment 3 : Final oral exam …….week 14 – 16 *

- According to the exam time table

Weighting of Assessments

Type of Assessment	Marks	Weight (%)
Semester work	20	10%

Practical exam	50	25%
Final exam	100	50%
Final oral exam	30	15%
Total	**200**	**100%**

6- List of References

6.1.Course Notes , prepared by members of the teaching department.
6.2.Essential books (text books):

- Organic chemistry ,6 th ed., R.T.Morrison and R.N.Boyed (2003)

7- Facilities Required for Teaching and Learning

Lecture hall containing black board, white screen, overhead projector, and computer aided with data show .

Lab equipment and chemicals **.**

Course coordinator : Dr .

Head of department : Dr. Khaled Rashad Elshemy

Date : 25/9/2010