Course Specifications

Programme(s) on which the course is given M.Sc.chemistry

Major or Minor element of programmes: Major

Department offering the programme: chemistry

Department offering the course : chemistry

Academic year / Level: 2012/2013

Date of specification approval: 2012

A- Basic Information

Title: spectroscopy Code: CH6612
Credit Hours: 3 h Lecture: 2
Tutorial: 0 Practicals:2 Total: 4h

B- Professional Information

1 – Overall Aims of Course

At the end of the course, this course will provide the basic principles of the infrared and ^{1}H-,^{13}C-NMR spectroscopy and mass spectrometry. This is turn assist the student to determine the organic structure.

2 – Intended Learning Outcomes of Course (ILOs)

a- Knowledge and Understanding:

a1- Identify Infrared spectroscopy
a2- illustrate ^{1}H-and^{13}CNMRspectroscopy
a3- show mass spectrometry

b- Intellectual Skills

b1- develop the students capability by determination of organic compounds.
b2-Improve the capability of thinking of student with field of Spectroscopy.

c- Professional and Practical Skills

c1-predict chemical structure of organic compound
c2- measure IR for compounds
c3- calculate chemical shift for different types of hydrogen atoms

d- General and Transferable Skills

d1-problem solving

3- Contents

Topic	No. of hours	Lecture	Tutorial/Practical
Introduction	4	2	2
IR.spectroscopy	12	6	6
Mass spectrometry	8	4	4
^{1}H-NMR spectroscopy	20	10	10
^{13}C- NMR spectroscopy	12	6	6

4– Teaching and Learning Methods

4.1-lectures
4.2- Lab experimentation

5- Student Assessment Methods

5.1 written examination to assess the understanding and comprehension
5.2- practical exam to assess the performance, attendance and interesting

Assessment Schedule

Assessment 1 short exam (class activities) Week every two weeks
Assessment 2 mid-term (written and practical) Week 8
Assessment 3 final-term (written and practical) Week 14 and 15

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 dep.

6.2- Recommended Books
Introduction to spectroscopy,Bavia,3rd.

7- Facilities Required for Teaching and Learning
Over head projector, data show and field visits

Course Coordinator: Prof. Dr. Abdo Eltabl

Head of Department: Prof. Dr. Ahmed Abd Elmagid

Date: 2012