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: Postgraduate
Prerequisite: B.Sc. Chemistry

Date of specification approval: 2012

A- Basic Information

Title: Chromatography
Code: CH6318
Credit Hours: 2 h Lecture: 1 -
Tutorial: 0 Practicals:0 Total: 2 h

B- Professional Information

1 – Overall Aims of Course

Upon the end of this course,
-the students must be able to illustrate the use of certain chromatographic apparatus like Column Chromatography and HPLC as an efficient methods for Chromatographic behavior comparison of the starting material and the product and explanation of product isolation and purification or the “work-up”.

2 – Intended Learning Outcomes of Course (ILOs)

a- Knowledge and Understanding:

The student should be able to:
a1- Briefly describe any plans for developing and improving the course that are being implemented. (eg increased use of IT or web based reference material, changes in content as a result of new research in the field)
a2. To develop students understanding of chromatography, their types and uses.
a3- Organic compounds isolation and purification
a4- To develop hand-on training on Organic product handling and characteristics of its reactions.
a5- to develop in the students an appreciation of the importance of ghrpmytographic methods and their uses in organic chemistry.

b.Intellectual Skills

The student should be able to:
b1- Teach the students the most recent technologies separation and purification of all types of organic compounds (C.C – T.L.C – P.C).

c.Professional and Practical Skills:

The students must be able to:
c1-Conduct standard chromatographic laboratory procedures and instrumentation.
c2-- Teach the students the application of chromatography in different fields.

c3-Implement different methods of analyzing organic sample constituents to achieve effective purity.

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

d1-Search the internet for information and retrieve and evaluate information from different sources.
d2-Work as a member in a team
d3-Write laboratory reports and presentation of laboratory information.
d5-Implement efficient and effective working environment in different

3- Contents

Topic	No. of hours	Lecture	Tutorial/Practical
Column chromatography (C.C)	4	2	3
Thin layer chromatography (T.L.C)	4	2	3
Paper chromatography (P.C)	4	2	3
Med tearm	2	1	
High-performance liquid chromatography	4	2	
Gas chromatography	4	2	
Applications	4	2	3

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

- Introduction to Modern Liquid Chromatography, Second Edition, L. R. SNYDER, Technicon Instruments Corporation, Research & Development Division, Tarrytown, New York.
- J. J. KIRKLAND, E. I. du Pont de Nemours & Company Central, Research & Development Department, Wilmington, Delaware

7- Facilities Required for Teaching and Learning

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

Course Coordinator:

Head of Department: Prof. Ahmed Abdel-Mageed

Date: 1 /12 /2012