Course Specifications

Programme(s) on which the course is given B. Sc. (CH, CH+PH, CH+P, CH+Mi, CH+Z, CH+Bio and CH+In)

Major or Minor element of programmers Major

Department offering the programmer: Chemistry

Department offering the course: Chemistry

Prerequisite: CH134

Academic year / Level: Third

Date of specification approval: 2013

A- Basic Information

Title: Instrumental Analysis (1) Code: CH325

Credit Hours: 2 h Lecture: 1.5

Tutorial: 1 Practical: 2 Total: 2h

B- Professional Information

1 – Overall Aims of Course

- Introduce the basic principles of spectral analysis methods.

- Study the diverse techniques of electrochemical analysis.

2 – Intended Learning Outcomes of Course (ILOs)

a- Knowledge and Understanding:

After completing the course the graduate should be able to

a1-Understand the general principles of ultra violet and infra red spectra.

a2- Know the different methods of electrochemical analysis.

b- Intellectual Skills

b1- Apply different methods in the analysis of a sample using different instrumental tools.

b2- Suggest appropriate techniques for the analysis of certain material or solution.

c- Professional and Practical Skills

c1- Collect spectral or electroanalytical data.

c2- Use this data in determining either the identity or the quantity of the analyte.

d- General and Transferable Skills

d1-Enhance the writting and oral communication capabilities.

3- Contents

Topic	No. of hours	Lecture	Tutorial/Practical
Introduction to spectral methods of analysis	12	10	4
UV&Polyatomic species	12	10	4
Potentiometry	10	8	3
Infra red	2	1.5	1

4– Teaching and Learning Methods

4.1-lectures

4.2 Practical

5- Graduate Assessment Methods

5.1 written examination to assess the understanding and comprehension

5.2- practical exam to assess the performance and profisionalism

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 13 and 14

Weighting of Assessments

Mid-Term Examination 20%

Final-term Examination 60%

Semester Work 20%

Total 100%

6- List of References

1- Vogel's textbook of quantitative chemical analysis, A.I. Vogel, (1994)

2- Pradyot Patnaik(2004). DEAN'S ANALYTICAL CHEMISTRY HANDBOOK Second Edition , McGRAW-HILL , New York , USA.

7- Facilities Required for Teaching and Learning

Overhead projector

Course Coordinator: Dr: Hanaa El-Boray

Head of Department: Prof. Dr: Adel A. Nassar

Date: / /