Course Specifications

Programme(s) on which the course is given B.SC.Chemistry
Major or Minor element of programmes: Minor for Chemistry students
Department offering the programme chemistry
Department offering the course chemistry
Academic year / Level: Fourth
Date of specification approval: 2013

A- Basic Information

Title: Electrochemistry (2) Code: CH4112
Credit Hours:2h Lecture:1.5h
Tutorial: 1 Practicals:2h Total: 2h

B- Professional Information

1 – Overall Aims of Course

Understand the electrochemistry and its applications

2 – Intended Learning Outcomes of Course (ILOs)

a- Knowledge and Understanding:

a1- Know the bases of Potentiometric techniques
a2- Study the Nonpotentionmetric technique
a3- Know the Irreversible process, Tafel equation

b- Intellectual Skills

b1- Apply the Electrical douple layer
b2 –Differentiate between the Types of polarization
b3- Study the Voltammetry , trainglur voltametry , amperometry , electrogravimetry , cyclic voltametry

c- Professional and Practical Skills

c1-Learning the students the applications of electrochemistry in different fields

c- General and Transferable Skills

d1-Proplems solving
d2-Enhance the written and oral communicatipons capability

- 3- Contents

Topic	No. of hours	Lecture	Tutorial/Practical
Potentiometric technique	2	1	1/1
Ion selective electrode	2	1	1/1
Formal potential	2	1	1/1
Irreversible potential	2	1	1/1
Polarization potential	2	1	1/1
Conc. polarization	2	1	1/1
Ohmic polarization	2	1	1/1
Activation overpotential	2	1	1/1
Types of transport in solution	2	1	1/1
Migration - Convection	2	1	1/1
Diffusion	2	1	1/1
Iquovic equation - Total equation	2	1	1/1
Nonpotentiometric	2	1	1/1
Polarography - amperometry	2	1	1/1

4– Teaching and Learning Methods

4.1-lectures

4.2. Practical studies

5- Student 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- Physical Chemistry, Third Edition, Robert G. Mortimer Professor Emeritu Rhodes College Memphis, Tennessee

2- JOSEPH WANG (2000). ANALYTICAL ELECTROCHEMISTRY ,SECOND EDITION, A JOHN WILEY & SONS, INC., Canada

7- Facilities Required for Teaching and Learning

overhead projector

Course Coordinator: Dr . Abla Hathoot

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

Date: / /