



Course Weekly Outline

Course Instructor	Hasan Sabih jabir				
E_mail	hassansabih87@mu.edu.iq				
Title	Physical chemistry III				
Course Coordinator	first semester				
Course Objective	Interest with the chemical changes that occur under effect of electric current or stream product electric current, and plays an important role in modern science and technology, for example, the use of process electrochemical reversible and non-reversible many important industrial applications, as well as the production and improve fuel cells different types which are used in many areas				
Course Description	Study of electrolysis applications on Faraday laws, Theories of electrolytic conductance - the theory of Arrhenius and Debye – Huckel, study of conductometric titrations and molar conductance of ions, applications on electrolytic conductance, Classification of cell, changes of enthalpy and entropy, the relationship between ΔG and ΔE , Classification of electrodes				
Textbook	Physical Chemistry By Dr. Ali A.H. Saeed Dr. Safaa .S.AL-Omer				
References	Atkins, (Physical Chemistry), second edition, Oxford P.W. University Press, 1982				
Course Assessment	Term Tests	Laborator y	Quizzes	Project	Final Exam
	As (20%)	As (13%)	As (27%)	----	As (40%)
General Notes	Type here general notes regarding the course				

Republic of Iraq
The Ministry of Higher Education
& Scientific Research



University: Al- Muthanna
College: Sciences
Department: Chemistry
Stage: Third
Lecturer name: Hasan Sabih
jabir
Academic Status: professor
Qualification: Dectorate
Place of work: Colloge of Science

Course weekly Outline

wee k	Date	Topics Covered	Lab. Experiment Assignments	Notes
1	2/10/2022	Electrolysis - Faraday laws - applications on Faraday laws	Electrolysis. Application	
2	9/10/2022	Electrolytic conductance - types - constant cell	Faraday laws. Application	
3	16/10/2022	Theories of electrolytic conductance - the theory of Arrenius and Debye - Huckel	Electrolytic Conduction	
4	23/10/2022	Kohlrausch law from independent migration of ion	Measurment of electrolytic conduction	
5	30/10/2022	Amendment Onsager equation, in complete dissociation and the degree of dissociation	Molar conduction. The Kohlraush law	
6	6/11/2022	Transition ionic hydrogen and hydroxyl	Practical exam the first month	
7	12/11/2022	Asymmetry effect and Electrophoretic effect	Ionic Mobility	
8	20/11/2022	Determination of ionic product water and equilibrium constant for a weak acid	Therios of Electrolytic conduction	
9	27/11/2022	Calculate the equilibrium constant from measurements of electromotive force	Debye-Huckel - Onsager. Equation	
10	4/12/2022	Classification of cell according to different potential half cell and connect half cell	Transport Number	

11	11/12/2022	Classification of the electrodes - the first type Electrodes - Electrodes Type II - Type III and redox electrodes	Determination of transport Number	
12	18/12/2022	The relationship between potential and concentration, "Nernst equation - applications Nernst equation to calculate the potential electrode	Conductometric titration	
13	25/12/2022	Calculate potential galvanic cell - applications to the detriment cell potential	The electrods. types of electrods	
14	2/1/2023	Measuring solubility product and conductomertic titration	Electro chemical cells. typs of cells	
15	9/1/2023	The appointment standard potential - appointment acidic function	Measurement of electromotive force. (E.M.F)	
Half-year Break				
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Dean Signature:

Instructor Signature: