

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

Republic of Iraq  
The Ministry Of Higher  
Education  
& Scientific Research



University: University of Baghdad  
College: College of Science for  
Women  
Department: Department of  
chemistry  
Lecturer name: Suad Salman  
Mahamd Salih Al-Ghaban  
Qualification: PhD in Analytical  
chemistry  
Place of work: College of Science for  
Women

## Syllabus Form

Instructor Name	Suad Salman Mahamd Salih Al-Ghaban				
E-mail	Salman . suad @ yahoo.com				
Course Title	Separation Methods				
Course Coordinator					
Course Objectives	<ul style="list-style-type: none"><li>• Improve problem solving skills.</li><li>• Relate to students the necessity of understanding classical analytical chemistry.</li><li>• Acquaint on the principles and concepts of precipitation methods, calculations and theory of chromatography.</li></ul>				
Course Description	This text book includes five chapters which cover the principle and techniques of quantitative chemical separation				
Textbook	1- Fundamental of analytical chemistry , Thomson learning inc. 4 <sup>th</sup> ed USA 2004.				
References	D.Havey , "Modern analytical chemistry" McGraw-Hill higher eduction 1 <sup>st</sup> ed USA 2000. D.A.Skoog, D.A.West, F.J.Holler and S.R.Cronch, "Analytical Chemistry, An Introduction " Saunders College publishing 7 <sup>th</sup> ed. USA, 2000.				
Course Assessments	Term Tests	Laboratory	Quizzes	Project	Final Exam
	As(35%)	As(15%)	As(10%)	-	As(40%)
General Notes	Type here general notes regarding the course				

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### Course Weekly Outline

Week	Date	Topics Covered	Lab. Experiment Assignments	Notes
1				
2				
3				
4			1-	
5			2-	
6			3-	
7				
8				
9			1-	
10			2-	
11			3-	
12				
13				
14				
15				
16				
<b>Half – year break</b>				
17	21/2/2016	Introduction to separation methods	Determination of Al <sup>+3</sup> & Fe <sup>+3</sup> in the mixture	
18	28/2/2016	Classification of separation methods		

19	6/3/2016	Separation by precipitation, basic principles examples & applications	Paper chromatography	
20	13/3/2016	Separation by distillation	4- Ink separation	
21	20/3/2016	Liquid- liquid extraction	5- Reagents separation	
22	27/3/2016	Distribution coefficient, ratio, percentage Extraction	6- Amino acids separation	
23	3/4/2016	Efficiency, selectivity of extraction	Exam	
24	10/4/2016	Extraction systems, application, problems and exercise	Ion exchange chromatography	
25	17/4/2016	Principle of chromatographic method	4- Determination of capacity of cation exchange	
26	24/4/2016	Classifications and Description	5- Estimation of total cations in water	
27	1/5/2016	Theories	6- Separation of $Mg^{+2}$ & $Zn^{+2}$ with ion	
28	8/5/2016	Problems and exercises	Exchange chromatography	
29	15/5/2016	Separation by chromatography		
30		Ion-exchange chromatography		
31	22/5/2016	Exam	Exam	

**Instructor Signature:**

**Dean Signature:**