



**Jerash private University
Faculty of Pharmacy
2nd semester, 2016/2017**

Course Syllabus

Course Title: analytical chemistry 2	Course code: 1101211
Course Level: 2nd year	Course prerequisite : 1101113
Lecture Time: 8:30-9:30	Credit hours: 2 credits

Academic Staff

Specifics

Name	Rank	Office Number and Location	Office Hours	E-mail Address
Dr Alaa Al- Ghnaneem	lecturer	pharmacy building		Alaasami2489@gmail.com

Course module description:

volumetric methods; precipitation Equilibria, Reduction – oxidation Equilibria, Complex metric Equilibria – titration's and applications, also gravimetric methods.

Course module objectives:

This course is devoted to the exploration of the volumetric methods; precipitation Equilibria, Reduction – oxidation Equilibria, Complex metric Equilibria – titration's and applications, also gravimetric methods.

Course/ module components

- **Books (title , author (s), publisher, year of publication)**

1 -Analytical Chemistry
by Gary D. Christian (editor) sixth edition (2003), ISBN: 0471214728 john wiley and sons ,

2- Analytical Chemistry: Principles and Techniques.
By Larry G. Hargis.(editors) (December 17, 1996), Publisher: Pearson Education
POD; Facsimile edition ISBN: 013033507X

- **Support material (s) (vcs, acs, etc).**
- **Study guide (s) (if applicable)**
- **Homework and laboratory guide (s) if (applicable).**

Teaching methods:

Lectures, discussion groups, tutorials, problem solving, debates, etc.

Learning outcomes:

- Knowledge and understanding
At the end of this module, student will be able to:
 1. Have a rigorous background in those chemical principles that are of particular importance to analytical chemistry.
 2. Be subjected to traditional techniques of analytical chemistry.
 3. Acquire confidence in his/her ability to obtain high quality analytical data.
- Cognitive skills (thinking and analysis).
- Communication skills (personal and academic).
- Practical and subject specific skills (Transferable Skills).

Assessment instruments

- Short reports and/ or presentations, and/ or Short research projects
- Quizzes.
- Home works
- Final examination: 40 marks

<u>Allocation of Marks</u>	
Assessment Instruments	Mark
First examination	20
Second examination	20
Final examination: 40 marks	40
Reports, research projects, Quizzes, Home works, Projects	20
Total	100

Course/module academic calendar

week	Basic and support material to be covered	Homework/reports and their due dates
(1)	Course introduction and refreshments for volumetric methods.	
(2)	Precipitation Equilibria, factors	

	affecting the solubility of the precipitate.	
(3)	Applications involving calculations of sparingly soluble salts.	
(4)	Deferent methods of titrations and their applications.	
(5)	.Titration curves determination.	
(6) First examination	. Reduction – Oxidation Equilibria, types of electrochemical cells	
(7)	Electrode potential and types of electrodes.	
(8)	CALCULATIONS CONCERNING THE APPLICATION OF Nernst equation	
(9)	Redox-titration, titration curve and factors the titration curves	
(10)	Iodi and iodo metric titrations and applications for determination of reducing and oxidizing agents.	
(11) Second examination	Complexation Equilibria Complexation Equilibria complexing, types of agents and their conditions of applications	
(12)	Complexometric titrations involving EDTA	
(13)	Applications of EDTA-titration methods	
(14)	Gravimetric methods of analysis	
(15) Specimen examination (Optional)	Applications for the determination of deferent types of salts..	
(16) Final Examination	Final Exam Week	