



كلية الصيدلة جامعة الزيتونة الأردنية
Faculty of Pharmacy
Al-Zaytoonah University of Jordan

" نحو تعليم صيدلاني متميز "
Toward Excellence in Pharmaceutical
Education

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" Tradition and Quality "

Detailed Course Description - Course Plan Development and Updating Procedures/ Pharmacy Department	QF02/0408-3.0E
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Faculty	Pharmacy	Department	Pharmacy
Course number	201144	Course title	Practical General Chem.for Engin.St.
Number of credit hours	1	Pre-requisite/co- requisite	General Chem.for Engin.St

Brief course description

Topics that were included in this course are :

1. Instructions and chemical observation.
2. Stoichiometry-Gravimetric Analysis.
3. Limiting reactant.
4. Volumetric analysis, Acid-base titration.
5. Thermochemistry: Determination of H_f for MgO
6. Collective properties of solution freezing point depression..
7. Chemical Equilibrium.
8. Spectrophotometric determination of the solubility of $NiSO_4 \cdot 6H_2O$.
9. Molar mass of volatile liquid.
10. Determination of the rate law.
11. Acids and Bases, Properties of Solutions

Course goals and learning outcomes	
Goal 1	Provide practical skills and experience in dealing with chemicals and laboratory tools.
Learning outcomes	1.1. Students will be able to apply the instructions and safety rules. 1.2 Students will be able to describe the fundamental properties of solids, liquids and gases. 1.3.Students be able to understand the procedures of instruments equipment's and tools required for analysis.



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Goal 2	To provide education in developing students' abilities to think, solve problems, use the scientific method to identify chemicals through studying the physical and chemical properties of matters using proper instr
Learning outcomes	2.1 Students be able to have a working knowledge of basic laboratory techniques, such as titrations and pH measurements. 2.2. To identify the chemical formula of different compounds. 2.3. Students will be able to apply a thermochemical study and determines the H_f for MgO 2.4. Students will be able to criticize the experimental results.
Goal 3	To deal with different chemical reactions using the proper instruments and tools required for the mentioned purpose.
Learning outcomes	3.1. Students will be able to deal with different kinds of reactions such as acid-base, precipitation, as well as redox reactions. 3.2 Students will be able to solve problems in aqueous equilibrium and acid/base chemistry, 3.3 Students will be able to explain how temperature, pressure and other atmospheric conditions affect reaction equilibria and kinetics.
Textbook	Practical General Chemistry, 2 nd edition.
Supplementary references	1- Chemistry, The Central Science, Brown , LeMay , Bursten and Murphy , Prentice Hall , 11 th Edition (2009). 2- General chemistry, Ebbing and Gammon, Houghton Mifflin , 9 th edition, 2009. 3- Chemistry, change, McGraw Hill, 9 th edition, 2007. 4-Chemistry, Zumdahl and Zumdahl, Houghton Mifflin, 7 th edition, 2007. 5- Chemistry, The Molecular Nature of Matter and Change, Silberberg, McGraw Hill, 3 ^{ed} edition, 2003.



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Course timeline				
Week	Number of hours	Course topics	Pages (textbook)	Notes
01	1 1 1	Check in.		
02	1 1 1	Instructions and Safety Rules.		
03	1 1 1	Density and Chemical observations.		
04	1 1 1	Formula of Hydrate		
05	1 1 1	Empirical formula of magnesium oxide.		
06	1 1 1	Limiting Reactant.		
07	1 1 1	Volumetric Analysis –I: acid –base titrations		
08	1 1 1	Volumetric Analysis –II: redox titration		
09	1 1 1	Colligative Properties		
10	1 1 1	Thermochemistry: Determination of H_f for MgO		
11	1 1 1	Chemical Equilibrium: Le Chatelier's Principle		
12	1 1 1	Determination of an unknown		
13	1 1 1	Check out		



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14	1 1 1	Spectrophotometric determination of the solubility of NiSO ₄ .6H ₂ O.		
15	1 1 1	Determination of the rate law.		
16	1 1 1	Final Exam		

Theoretical course evaluation methods and weight	First exam 25% Second exam 25% Final exam 50%	Practical (clinical) course evaluation methods	Semester students' work = 50% (Reports, research, quizzes, etc.) Final exam = 50%
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Approved by head of department		Date of approval	
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Extra information (to be updated every semester by corresponding faculty member)

Name of teacher	Dr.Ihsan I.M.Shabeeb	Office Number	226
Phone number (extension)	310	Email	Ihsan.shabeeb@zug.edu.jo
Office hours	Sun., Tues. and Thur. 10-12 Mon. and Wend. 11.0-1.0		