



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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كلية الصيدلة  
Faculty of Pharmacy



"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	0201327	Course title	Pharmaceutics and Pharmaceutical Calculations Lab
Number of credit hours	1	Pre-requisite/co-requisite	0201326 - Pharmaceutics II

### Brief course description

This course is designed to introduce the students to some basic terminology related to pharmaceutical calculations, to teach students how to read and interpret prescriptions, and to learn the different methods for dosage calculation and alteration of product strength. Some basic physicochemical principles such as solubility, as well as an introduction to compounding will also be covered.

Course goals and learning outcomes	
<b>Goal 1</b>	To introduce students to commonly used expressions of concentration
Learning outcomes	1.1 Differentiate between the expressions percent weight-in-volume, percent volume-in -volume, percent weight-in-weight, and ratio strength. 1.2 Calculate the percentage strength and ratio strength of a pharmaceutical preparation. 1.3 Apply percent strength and ratio strength to calculate the quantity of an ingredient to use in compounding a pharmaceutical preparation.
<b>Goal 2</b>	To teach students how to interpret prescriptions and medication orders
Learning outcomes	2.1 Understand the format and components of a typical prescription and a medication order. 2.2 Interpret correctly the standard abbreviations and symbols used on prescriptions and medication orders.
<b>Goal 3</b>	To teach students the correct methods for the calculation of doses
Learning outcomes	3.1 Differentiate between the various kinds of doses. 3.2 Learn how to calculate doses based on age, body weight, and body surface area.



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<b>Goal 4</b>	To introduce students to the methods of altering product strength
Learning outcomes	4.1 Perform calculations for altering product strength by dilution, concentration, or fortification, and for the preparation and use of stock solutions 4.2 Apply the allegation method in problem-solving. 4.3. Learn how to reduce and enlarge formulas for pharmaceutical preparations.
<b>Goal 5</b>	To introduce students to phase equilibria and the phase rule
Learning outcomes	5.1 Understand the concept of phases and the phase rule. 5.2 Differentiate between complete and partial miscibility and immiscibility. 5.3 Learn how to determine the critical solution temperature of a binary system of partially miscible liquids.
<b>Goal 6</b>	To introduce students to the compounding of pharmaceutical solutions
Learning outcomes	6.1 Learn the importance of solutions as a pharmaceutical dosage form and their method of preparation.
<b>Textbook</b>	<ul style="list-style-type: none"><li>- Pharmaceutical Calculations, H.C. Ansel, 13<sup>th</sup> Ed., Lippincott Williams &amp; Wilkins, 2010.</li><li>- Martin's Physical Pharmacy and Pharmaceutical Sciences, P.J. Sinko, 6<sup>th</sup> Ed., Lippincott Williams &amp; Wilkins, 2011.</li><li>- Pharmaceutical Practice, A.J. Winfield and R.M.E. Richards, 3<sup>rd</sup> Ed., Churchill Livingstone, 2004.</li></ul>
<b>Supplementary references</b>	

Course timeline				
Week	Number of hours	Course topics	Pages (textbook)	Notes
1	2	Percentage, ratio strength, and other expressions of concentration	Ch. 6 (Ansel)	
2				



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3	1	<b>Interpretation of prescriptions and medication orders</b>	<b>Ch. 4 (Ansel)</b>	
4	1	<b>Calculation of doses</b>	<b>Ch. 7 and 8 (Ansel)</b>	
5	2	<b>Altering product strength, use of stock solutions, alligation, and reducing and enlarging formulas</b>	<b>Ch. 15 and 16 (Ansel)</b>	
6				
7	1	<b>Binary systems</b>	<b>Ch. 2 and 9 (Martin)</b>	
8	1	<b>Solution dosage forms</b>	<b>Ch. 30 (Winfield)</b>	
9	1	<b>Final exam</b>		

<b>Theoretical course evaluation methods and weight</b>	<b>N/A</b>	<b>Practical (clinical) course evaluation methods</b>	<b>Reports = 20% Quizzes = 20% Evaluation = 10% Final Exam = 50%</b>
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<b>Approved by head of department</b>		<b>Date of approval</b>	
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Extra information (to be updated every semester by corresponding faculty member)

<b>Name of teacher</b>		<b>Office Number</b>	
<b>Phone number (extension)</b>		<b>Email</b>	
<b>Office hours</b>			



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