

The University of Jordan

Faculty: Pharmacy **Department:** Pharmaceutics and Pharmaceutical Technology
Program: Pharmacy/PharmD **Academic Year/ Semester:** 2013/2014- First Semester

Pharmaceutical Calculations and Compounding of Dosage Forms/Practical (1202234).

Credit hours	1 hour	Level	2 nd year	Pre-requisite	1202230
Coordinator/ Lecturer		Office number		Office phone	
Course website		E-mail		Place	

Office hours					
Day/Time	Sunday	Monday	Tuesday	Wednesday	Thursday

Course Description

This course aims to provide the students with good knowledge in calculations, formulation and extemporaneous dispensing, packaging, and storage of medicines. Specifically, solutions, suspensions, emulsions, creams, ointments and gels as well as suppositories and powders preparations are discussed along with their various types, additives, methods of preparation, common examples, packaging and quality requirements. These extemporaneous preparations include:

1. Solutions: Zinc sulphate eye drops BP, Sodium bicarbonate ear drops BP, ephedrine nasal drops BP, Aromatic elixir NF 1980, Simple syrup BP 1980, Codeine linctus BP 1980, Peppermint spirit BP 1980, Iodine tincture USP 1980.
2. Suspensions: Menthol and Eucalyptus inhalation BP 1980, Calamine lotion USP 1980, Kaolin mixture BP 1980.
3. Emulsions: Mineral oil emulsion USP 1980 (to be prepared in both dry and wet gum methods).
4. Creams: Cold cream USP, Vanishing cream BPC.
5. Ointments: Whitfield's ointment BP, Zinc oxide ointment USP.

6. Gels: Clindamycin gel.

7. Suppositories: Bismuth subgallate suppositories BP, Glycerol suppository base BP.

8. Powders: Applying trituration mixtures in diluting an active ingredient with a suitable diluent when the total amount of active ingredient required is less than the minimum weighable quantity.

Learning Objectives

- 1- Gaining a sound base for all aspects of good pharmacy practice.
- 2- Managing a laboratory environment, including the correct use and selection of equipment and ingredients.
- 3- Learning how to interpret a prescription and how to extemporaneously compound such a prescription product by putting knowledge into practice.
- 4- Knowledge in calculations, formulation and extemporaneous dispensing, packaging, and storage of medicines.

Intended Learning Outcomes (ILOs):

Successful completion of the course should lead to the following outcomes:

A. Knowledge and Understanding: Student is expected to

A1- To acquire knowledge of all aspects of extemporaneous dispensing.

A2- To understand the different dosage forms and their intended use.

B. Intellectual Analytical and Cognitive Skills: Student is expected to

B1- to apply knowledge of physical concepts when formulating extemporaneous formulations.

B2- to understand the use of excipients in a given formulae and to be able to predict the final obtained dosage form.

C. Subject-Specific Skills: Student is expected to

C1- Confidence in using different techniques which are fundamental to good compounding.

C2- Adequate correlation between theoretical principles and laboratory skills.

D. Transferable Key Skills: Students is expected to

D1- Good pharmacy practice

D2- Selection of proper equipment and the application of correct manipulative techniques, as well as selection of suitable excipients for the prepared dosage form.

ILOs: Learning and Evaluation Methods

ILO/s	Learning Methods	Evaluation Methods
	Lab demonstration sessions, Discussions and Homework	Practical and theoretical Exams and Quizzes

Evaluation

Evaluation	Point %	Date
General Evaluation	10%	
Product Quality Evaluation	10%	
Quizzes	10%	
Midterm Exam	30% - 20% Practical - 10% Theoretical	
Final Exam	40% - 20% Practical - 20% Theoretical	

Main Reference/s:

1. Pharmaceutical Practice, A.J. Winfield, J.A. Rees and I.Smith. 4th edition, 2009. Published by Churchill Livingstone.
2. Pharmaceutical Practice, A.J. Winfield and R.M.E. Richards. 3rd edition, 2004. Published by Churchill Livingstone.
3. Pharmaceutics: the science of dosage form design, Aulton M.E. 2nd edition, 2002. Published by Churchill Livingstone.
4. Pharmaceutical dosage forms and drug delivery systems, Ansel H.C., Popovich N.G., Allen L.V. 7th edition, 2000. Published by Williams and Wilkins.