



The University of Jordan

Accreditation & Quality Assurance Center

COURSE Syllabus

1	Course title	Pharmaceutical Calculations and Compounding of Dosage Forms
2	Course number	1202230
3	Credit hours (theory, practical)	2 (theory)
	Contact hours (theory, practical)	2 (theory)
4	Prerequisites/corequisites	1202134 (Physicochemical Principles of Pharmacy)
5	Program title	Pharmacy and Pharm D
6	Program code	
7	Awarding institution	The University of Jordan
8	Faculty	Pharmacy
9	Department	Pharmaceutics and Pharmaceutical Technology
10	Level of course	Undergraduate
11	Year of study and semester (s)	First semester of the 2 nd year
12	Final Qualification	Pharmacy and Pharm D
13	Other department (s) involved in teaching the course	
14	Language of Instruction	English
15	Date of production/revision	February 17 th , 2016

16. Course Coordinator:

Office numbers, office hours, phone numbers, and email addresses should be listed.

Dr. Dina El-Sabawi
 Office: 239
 Phone 5355000, Ext. 23360.
 E-mail: d.sabawi@ju.edu.jo
 Office hours to be announced

17. Other instructors:

Office numbers, office hours, phone numbers, and email addresses should be listed.

Dr. Lorina Bisharat
 Office: 110
 Phone 5355000, Ext. 23377
 E-mail: l.bisharat@ju.edu.jo
 Office hours to be announced

18. Course Description:**A. Principles of Pharmacy Practice:**

1. Dispensing techniques (compounding and good practice).
2. Pharmaceutical calculations.
3. Packaging.
4. Storage and stability of medicines.
5. Labelling of dispensed medicines.

B. Pharmaceutical Products:

1. Routes of administration and dosage forms.
2. Solutions.
3. Suspensions.
4. Emulsions.
5. External preparations.
6. Suppositories and pessaries.
7. Powders and granules.

19. Course aims and outcomes:**A- Aims:**

- 1- To provide a sound base for all practical aspects of good pharmacy practice.
- 2- To provide the students with knowledge in pharmaceutical calculations.
- 3- To provide the students with knowledge concerning fundamentals of extemporaneous dispensing including techniques applied in formulae preparation, packaging, labelling, expiry date and storage conditions of such formulae.
- 4- To provide the students with knowledge of pharmaceutical dosage forms and the variety of excipients used in pharmaceutical systems with their functions.
- 5- To provide the students with knowledge of the routes of administration.

B- Intended Learning Outcomes (ILOs): Upon successful completion of this course students will be able to ...**A. Knowledge and Understanding:** Student is expected to

- A1- To acquire knowledge of all aspects of extemporaneous dispensing and pharmaceutical calculations.
A2- To acquire knowledge of the routes of administration and dosage forms and their intended use.

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

- B1- Apply knowledge of physical concepts when formulating extemporaneous formulations.
B2- Be able to correlate and suggest the appropriate technique and equipment required for good compounding of a given formula.
B3- Understand the use of excipients in formulae and to be able to predict the final obtained dosage form.

C. Subject-Specific Skills: Student is expected to

- C1- Acquire confidence in applying different techniques which are fundamental to good compounding.
C2- Gain adequate correlation between theoretical principles and laboratory skills.

D. Transferable Key Skills: Students is expected to

D1- Gain fundamental skills of the practical aspects of good pharmacy practice.

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

20. Course competences

1. Recognise and properly compound extemporaneously-prepared medicine formulations.
2. Characterize different dosage forms of medicines and their proper usage.
3. Identify different routes of administration of medicines.
4. Package medicines properly to ensure their stability, safety and patient accessibility.
5. Label dispensed medicines with all necessary information and instructions.
6. Recognize and follow proper storage conditions of medicines.
7. Accurately interpret prescriptions' instructions including medicine's type, strength, dosage form and route of administration.
8. Advise patients on proper storage, usage and adherence of dispensed medicines.
9. Verify patient's understanding of all instructions related to dispensed medicines.
10. Contact prescriber to verify and correct any potential mistakes in prescriptions.

21. Topic Outline and Schedule:

Topic	Weeks	Instructor/s	Achieved ILOs	Evaluation Methods	References
1. Dispensing techniques	1 and 2	Provided above	Provided above	Exams, Quizzes and assignments	Provided below
2. Pharmaceutical Calculations	3,4 and 5			Exams, Quizzes and assignments	Provided below
3. Packaging and labelling	6			Exams, Quizzes and assignments	Provided below
4. Storage and stability	7			Exams, Quizzes and assignments	Provided below
5. Routes of administration	8			Exams, Quizzes and assignments	Provided below
6. Solutions	9			Exams, Quizzes and assignments	Provided below
7. Suspensions	10			Exams, Quizzes and assignments	Provided below
8. Emulsions	11			Exams, Quizzes and assignments	Provided below
9. Suppositories and pessaries	12			Exams, Quizzes and assignments	Provided below
10. External preparations	13			Exams, Quizzes and assignments	Provided below
11. Powders and granules	14			Exams, Quizzes and assignments	Provided below

22. Teaching methods:

- ✓ Lectures
- ✓ Calculations workshops
- ✓ Home-works

23. Learning skills:

- ✓ Critical thinking
- ✓ Digital literacy
- ✓ Problem-solving skills
- ✓ Self-directed learning

24. Evaluation Methods and Course Requirements:

Opportunities to demonstrate achievement of the ILOs are provided through the following assessment methods and requirements:

- ✓ Exams
- ✓ Quizzes
- ✓ Reports and assignments

25. Course Policies:**A- Attendance policies:**

Attendance: Mandatory.

First warning – with 4 absences.

Last warning – with 5 absences.

Failing the course – with 6 absences.

B- Absences from exams and handing in assignments on time:

Will result in zero achievement unless a health report approved from the university students clinic or other significant excuse is documented.

C- Health and safety procedures:

NA

D- Honesty policy regarding cheating, plagiarism, misbehavior according to university regulations:

The participation, the commitment of cheating will lead to applying all following penalties together

- 1) Failing the subject he/she cheated at
- 2) Failing the other subjects taken in the same semester
- 3) Not allowed to register for the next semester. The summer semester is not considered as a semester.

E- Grading policy:

Exams and Quizzes.

Midterm Exam	40 points
Quiz or assignment	10 points
Final Exam	50 points
Total	100 points

F- Available university services that support achievement in the course:

Classrooms, internet classes and computer labs.

26. Required equipment:

Audio-visuals (Data-show) and internet connection.

27. References:

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.

Name of Course Coordinator: Dr. Dina El-Sabawi. Signature: ----- Date: February 17th, 2016

Head of curriculum committee/Department: ----- Signature: -----

Head of Department: Dr. Amal Al-Bakri. Signature: -----

Head of curriculum committee/Faculty: ----- Signature: -----

Dean: ----- -Signature: -----

Copy to:

Head of Department
Assistant Dean for Quality Assurance
Course File