



The University of Jordan

Accreditation & Quality Assurance Center

COURSE Syllabus

1	Course title	Pharmacology 2
2	Course number	1203364
3	Credit hours (theory, practical)	3 hours/theory
	Contact hours (theory, practical)	3 hours
4	Prerequisites/corequisites	Pharmacology 1 (1203363)
5	Program title	Pharmacy / Pharm D
6	Program code	
7	Awarding institution	University of Jordan
8	Faculty	Pharmacy
9	Department	Department of Biopharmaceutics & Clinical Pharmacy
10	Level of course	3 rd year
11	Year of study and semester (s)	2015/2016 second semester
12	Final Qualification	BsC pharmacy/ PharmD
13	Other department (s) involved in teaching the course	
14	Language of Instruction	English
15	Date of production/revision	8/2/2016

16. Course Coordinator:

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17. Other instructors:

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Dr. Sawsan Abu Hamdeh

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Dr. Sameh Al-Zubiedi

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18. Course Description:

The course provides students with the knowledge of pathophysiology, clinical manifestations, complications, goal of pharmacotherapy, patient education of selected endocrine, malignant and infectious disorders and central nervous system, as well as the knowledge of mechanism of action, pharmacokinetics, clinically significant side effects & drug interactions, contraindications and clinical uses of medications used in the treatment of such disorders.

Some of the drugs that will be examined include:

- Drugs for endocrine diseases that affect the thyroid gland, diabetes (type 1 and 2), fertility problems, and osteoporosis
- Drugs for neurological diseases including seizures, anxiety, Parkinson's disease, depression, and psychosis.
- Drugs that act on bacteria, viruses, fungi, and ones used to treat cancer (chemotherapy)

19. Course aims and outcomes:

A- Aims: To provide opportunities for students to develop and demonstrate knowledge and understanding of the effects of drugs on selected endocrine, malignant and infectious disorders and central nervous system disease processes, the mechanisms by which drugs produce their therapeutic and toxic effects, and the factors influencing their absorption, distribution and biological actions

B- Intended Learning Outcomes (ILOs): Upon successful completion of this course leads to the following outcomes:

A. Knowledge and Understanding: Student is expected to:

A.1- Describe the elements of pharmacology, therapeutics, anatomy and physiology as appropriate for various endocrine, malignant and infectious disorders and central nervous system disease

A.2- Identify the major categories of drugs used for the treatment of selected endocrine, malignant and infectious disorders and central nervous system disease

A.3- Describe characteristics of major groups of drugs and selected individual medications used for various endocrine, malignant and infectious disorders and central nervous system disease in term of the following: mechanism(s) of action; pharmacokinetic properties; therapeutic uses; adverse effects; drug and food interactions.

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

B.1- Demonstrate knowledge of the terminology and special concepts useful in the study of pharmacology and therapeutics for various endocrine, malignant and infectious disorders and central nervous system disease.

B.2- Discuss principles of therapy with major drug groups in relation to drug selection, dosage, route, and use in special populations (e.g., children, older adults, clients with impaired renal or hepatic function).

B.3- Relate drug action at the cellular level to overall pharmacological and toxicological effects.

C. Subject-Specific Skills: Student is expected to:

C.1- Describe the general principles of hormones action, specific functions of each endocrine gland its control relations to other endocrine glands, and the functions and control of the endocrine glands.

C.2- Describe the mechanisms of action, use, and adverse effects of hormones and hormones analogues.

C.3- List the common therapeutic uses of pituitary & hypothalamic exogenous corticosteroids and clinical considerations to their administration.

C.4- Describe the general principles of postmenopausal hormone replacement therapy

C.5- Describe the characteristics of the major classes of hormonal contraceptive preparations in term of their: mechanism(s) of action; pharmacokinetic properties; therapeutic uses; and adverse effects

C.6- Distinguish between Types 1 and 2 Diabetes Mellitus (DM) with respect to onset, etiology, and pathophysiology.

C.7- Discuss the strategies for controlling blood glucose and how these strategies relate to the mechanisms of actions of the various antidiabetic drugs.

C.8- Describes insulin's role in the management of diabetes mellitus.

C.9- Describe the roles of parathyroid hormone, calcitonin, and vitamin D in regulating calcium metabolism.

C.10- Discuss the prevention and treatment of osteoporosis.

C.11- Know the treatment and rationale for treatment of a number of neurological and psychiatric illnesses.

C.12- Describe the mechanisms involved in the development of drug tolerance and drug dependence.

C.13- Understand the basic principles of chemotherapy in bacterial, viral and fungal infections; in particular and appreciation of new and emerging infectious disease pharmacotherapy.

C.14- Know and understand the antineoplastic agents utilized in the treatment of various cancers, based on their: mechanism of action, mechanism of resistance, pharmacokinetics, adverse effects, contraindications, and drug interactions.

C.15- Explain the rationale for combination chemotherapy to treat various types of cancer.

D. Transferable Key Skills: Student is expected to:

D.1- Apply knowledge of pharmacology to choose the most appropriate regimen for the treatment of various endocrine, malignant and infectious disorders and central nervous system diseases

D.2- Apply knowledge of basic pharmacology of endocrine, CNS, and chemotherapeutic drugs to explain clinical uses and adverse effects of these agents for treatment of common disease states

D.3- Know how to obtain subjects specific information through the visit of libraries to answer questions presented in the class.

D.4- Recognize different resources of pharmacology (books, professional sites and scientific journals) and know how to evaluate the big quantity of information available

D.5- Take responsibility for own work and to exercise substantial autonomy and initiative in a learning environment

Expected competencies to be gained by this course:

Patient care related competencies:

Recognize main physiological principles that govern normal body functioning Identify pathophysiological basis of major human diseases

Identify indications, side effects and contraindications of medicines

Identify drug-drug and drug-food interactions of medicines

Identify basic principles of drug pharmacokinetics and recognize disease conditions and other factors that interfere with safety and efficacy of medicines

20. Topic Outline and Schedule:

Topic	Week no.	Instructor	Achieved ILOs	Evaluation Methods	Reference (katzung, chapter no.)
Introduction to endocrinology Pituitary & Hypothalamic hormones	1	All instructors	A1-A3, B1-B3, C.1-C.2, D1-D5	Midterm and final exams	37
Thyroid & Antithyroid drugs	2	All instructors	A1-A3, B1-B3, C1-C2, D1-D5	Midterm and final exams	38
Adrenocorticosteroids & Adrenocortical Antagonists	3	All instructors	A1-A3, B1-B3, C1-C3, D1-D5	Midterm and final exams	39
The Gonadal Hormones & Inhibitors	4	All instructors	A1-A3, B1-B3, C4-C5, D1-D5	Midterm and final exams	40
Pancreatic Hormones & Antidiabetic drugs	5&6	All instructors	A1-A3, B1-B3, C6-C-8, D1-D5	Midterm and final exams	41
Midterm week no.7					
Agents That Affect Bone Mineral Homeostasis	8	All instructors	A1-A3, B1-B3, C9-10, D1-D5	Final exam	42
Antibacterial Agents	8&9	All instructors	A1-A3, B1-B3, C13, D1-D5	Final exam	43,44,45,46
Cancer Chemotherapy and Immunopharmacology	10&11	All instructors	A1-A3, B1-B3, C14-C15, D1-D5	Final exam	54,55
Sedative & Hypnotic drugs	11	All instructors	A1-A3, B1-B3, C11-C12, D1-D5	Final exam	22
Antiseizure Drugs	12	All instructors	A1-A3, B1-B3, C11, D1-D5	Final exam	24
Antipsychotic agents & Lithium	13	All instructors	A1-A3, B1-B3, C11, D1-D5	Final exam	29
<i>Antidepressants</i>	13&14	All instructors	A1-A3, B1-B3, C11, D1-D5	Final exam	30
<i>Pharmacologic management of Parkinsonism and other movement disorders</i>	14	All instructors	A1-A3, B1-B3, C11, D1-D5	Final exam	28
<i>Anti funguls- Antivirals</i>		Self study material	A1-A3, B1-B3, D1-D5	Quiz	48, 49

21. Teaching Methods and Assignments:

The intended learning outcomes will be progressively developed through a series of lectures based on power point presentations that will define the scope of the course and communicate basic knowledge as a basis for further study. Studying resources (material) will mainly be based on and derived from the textbook as well as any other resources to which the student is directed to.

ILO/s	Learning Methods	Evaluation Methods
A1-3, B1-3, C1-C15, D1-D5	Lectures	Exams, Quizzes
D1-D5	Homeworks	Exams, Quizzes

Learning skills:

- Critical thinking
- Problem-solving skills
- Self-directed learning

22. Evaluation Methods and Course Requirements:

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

Evaluation	Point %	Date	Material
Quiz	10%	To be announced	Antiviral and anti-fungals
Midterm Exam	40%	To be announced	
Final Exam	50%	To be announced	

23. Course Policies:

A- Attendance policies:

- Attendance to the lectures is expected and mandatory.
- Students who are more than 5-10 minutes late for, or who leave early from class will be counted as absent.
- Students are allowed maximum of 15% of scheduled class hours per term. Any single absence beyond that will be reported to the dean and student will be subjected to the rules and regulations of University of Jordan including course dismissal. For 3 hours credit course the following regulations apply

First warning – with 4 absences

Last warning – with 5 absences

Failing in the subject – with 6 absences

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

Makeup exams should not be given unless there is a valid excuse: student's hospitalization or death of a first degree family member. Arrangements to take an exam at a time different than the one scheduled **MUST** be made prior to the scheduled exam time.

C- Health and safety procedures:

N/A

D- Honesty policy regarding cheating, plagiarism, misbehavior:

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

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

E- Grading policy:

The grades distribution has been detailed above. All pre-final marks (out of 50) are to be announced to students before the final exams. If the student is in doubt about his pre-final marks he contact his instructor to revise the marks. Final marks

are not announced, however students are allowed to submit an official request for mark review, the instructor will review the mark and submit a written report about the results of the review.

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

Classrooms, library, internet classes and access to scientific sites

24. Required equipment:

A computer and a projector

25. References:

A- Required book (s), assigned reading and audio-visuals:

- **Main Reference:** Basic & Clinical & Pharmacology, ed. Katzung, 13th edition, 2015. McGraw-Hill Medical. ISBN-13: 978-0071825054

B- Recommended books, materials, and media:

- Pharmacology: Examination & Board review. Katzung & Trevor, 10th edition, 2013. ISBN-13: 978-0071789233
- Goodman & Gilman's The Pharmacological Basis of Therapeutics, 12th edition, 2011. ISBN-13: 978-0071624428
- Lippincott's Illustrated Reviews: Pharmacology, 6th edition, 2015. ISBN-13: 978-1451191776
- Rang & Dale's Pharmacology, 8th Edition, 2015. ISBN: 9780702053627
- Access Pharmacy: <http://accesspharmacy.mhmedical.com/>
- UpToDate: www.uptodate.com
- Electronic Library of Medicine – Jordan: <http://www.elm.jo/>

26. Additional information:

Name of Course Coordinator: -----Signature: ----- Date: ----- Head
of curriculum committee/Department: ----- Signature: -----
Head of Department: ----- Signature: -----
Head of curriculum committee/Faculty: ----- Signature: -----
Dean: ----- -Signature: -----

Copy to:
Head of Department
Assistant Dean for Quality Assurance
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