

Course Syllabus

1	Course title	Introduction to Pharmacology
2	Course number	0503201
3	Credit hours (theory, practical)	2
	Contact hours (theory, practical)	2
4	Prerequisites/corequisites	None
5	Program title	Doctor of Medicine
6	Program code	
7	Awarding institution	
8	School	Medicine
9	Department	Pharmacology
10	Level of course	Second year
11	Year of study and semester (s)	Second year, 1st semester
12	Final Qualification	MD
13	Other department (s) involved in teaching the course	
14	Language of Instruction	English
15	Date of production/revision	10/10/2026

16. Course Coordinator:

Dr. Manar Zreikat Office number: _____ Office hours: _____ Phone number: 065355000

17. Other instructors:

Prof. Yacoub Irshaid Dr. Alia Shatanawi
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18. Course Description:

This course explores pharmacodynamics, pharmacokinetics, drug actions and interactions. The second part of the course focuses on the autonomic nervous system and its pharmacology. The third part of the course focuses on fundamental principles of antimicrobial, antiviral and anticancer drugs.
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19. Course aims and outcomes:

A- Aims:

1. Explore and understand pharmacodynamics, pharmacokinetics, drug actions and interactions.
2. Understand the importance of patient safety during medication administration.
3. Describe the actual and potential effects of commonly used medications that may be important in rehabilitation.

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4. Understand the ethical and legal issues related to physicians' roles and responsibilities in medication administration.

B- Intended Learning Outcomes (ILOs):

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

1. Describe and explain the fundamental concepts of pharmacology, pharmacokinetics, and pharmacodynamics.
2. Describe principles of safe administration of medications.
3. Recognize the basics for proper choice of drug/s in proper dose in relation to age, sex, genetic variation and concomitant disorders.
4. Describe the pharmacological actions and uses of drugs acting on the autonomic nervous system.
5. Explain the mechanisms of action and side effects of drugs acting on the autonomic nervous system.
6. Explain the principles of antimicrobial and antiviral drugs, selective toxicity and clinical application.
7. Demonstrate knowledge and understanding of the mechanisms of drug action and drug resistance for both antimicrobial and antiviral drugs.
8. Describe the principles of cancer chemotherapy.
9. Explain chemotherapeutic agents and have an understanding of their modes of action.

20. Topic Outline and Schedule:

Week	Date	Lecture	Topic	Instructor
1	11/10/2026	1	Definitions & General principles	Dr. Alia Shatanawi
		2	Pharmacodynamics	Dr. Alia Shatanawi
2	18/10/2026	3	Pharmacodynamics	Dr. Alia Shatanawi
		4	Pharmacodynamics	Dr. Alia Shatanawi
3	25/10/2026	5	Pharmacodynamics	Dr. Alia Shatanawi
		6	Pharmacodynamics	Dr. Alia Shatanawi
4	1/11/2026	7	Pharmacokinetics	Prof. Yacoub Irshaid
		8	Pharmacokinetics	Prof. Yacoub Irshaid
5	8/11/2026	9	Pharmacokinetics	Prof. Yacoub Irshaid
		10	Pharmacokinetics	Prof. Yacoub Irshaid
6	15/11/2026	11	Pharmacokinetics	Prof. Yacoub Irshaid
		12	Pharmacokinetics	Prof. Yacoub Irshaid
7	22/11/2026	13	ANS Pharmacology (Introduction to the ANS; cholinergic transmission)	Dr. Manar Zreikat
		14	ANS Pharmacology (Cholinergic agonists: direct-acting)	Dr. Manar Zreikat
8	29/11/2026	15	ANS Pharmacology (Cholinesterase inhibitors)	Dr. Manar Zreikat
		16	ANS Pharmacology (Cholinergic antagonists: antimuscarinics, ganglionic and neuromuscular blockers)	Dr. Manar Zreikat

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Week	Date	Lecture	Topic	Instructor
9	6/12/2026	17	ANS Pharmacology (Adrenergic transmission and receptors)	Prof. Yacoub Irshaid
		18	ANS Pharmacology (Adrenergic agonists)	Prof. Yacoub Irshaid
10	13/12/2026	19	ANS Pharmacology (Alpha-adrenergic blockers)	Prof. Yacoub Irshaid
		20	ANS Pharmacology (Beta-adrenergic blockers)	Prof. Yacoub Irshaid
11	20/12/2026	21	Chemotherapy (Principles of antimicrobial therapy: selective toxicity, spectrum, bactericidal vs bacteriostatic, PK/PD, combinations, mechanisms of resistance)	Dr. Manar Zreikat
		22	Chemotherapy (Cell wall inhibitors I: penicillins and cephalosporins)	Dr. Manar Zreikat
12	27/12/2026	23	Chemotherapy (Cell wall inhibitors II: carbapenems, monobactams, beta-lactamase inhibitors, vancomycin)	Dr. Manar Zreikat
		24	Chemotherapy (Protein synthesis inhibitors I: aminoglycosides, tetracyclines)	Dr. Manar Zreikat
13	3/1/2027	25	Chemotherapy (Protein synthesis inhibitors II: macrolides, clindamycin, chloramphenicol, linezolid)	Dr. Manar Zreikat
		26	Chemotherapy (Folate antagonists: sulfonamides, trimethoprim; fluoroquinolones; urinary antiseptics; metronidazole)	Dr. Manar Zreikat
14	10/1/2027	27	Chemotherapy (Antimycobacterial drugs; antibiotic stewardship and use in pregnancy, children and renal impairment)	Dr. Manar Zreikat
		28	Chemotherapy (Introduction to cancer chemotherapy: cell cycle, principles, major drug classes, toxicity)	Dr. Manar Zreikat

21. Teaching Methods and Assignments:

Development of ILOs is promoted through the following teaching and learning methods:

PowerPoint presentations

Discussions

22. Evaluation Methods and Course Requirements:

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

Midterm: 40%

Final: 60%

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23. Course Policies:

- A- Attendance policies: following university guidelines
- B- Absences from exams and handing in assignments on time: N/A
- C- Health and safety procedures: N/A
- D- Honesty policy regarding cheating, plagiarism, misbehavior: N/A

24. Required equipment: (Facilities, Tools, Labs, Training...)

None

25. References:

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

1. Basic and Clinical Pharmacology. B. G. Katzung. 14th Edition.

References:

2. Pharmacology, Lippincott's Illustrated Reviews. Howland RD and Mycek MJ. 3rd edition 2006. Lippincott Williams and Wilkins.
3. Modern Pharmacology with Clinical Applications. Craig & Stitzel. 6th Edition 2004 (or a newer edition).
4. Goodman and Gilman's The Pharmacological Basis of Therapeutics. Brunton, Lazo, Parker.

26. Additional information:

Name of Course Coordinator: Dr. Manar Zreikat Signature: _____ Date: _____

Head of curriculum committee/Department: _____ Signature: _____
Date: _____

Head of Department: Dr. Alia Shatanawi Signature: _____ Date: _____

Head of curriculum committee/Faculty: _____ Signature: _____
Date: _____

Dean: _____ Signature: _____ Date: _____