

السنة الثانية – الفصل الأول
مقدمة في علم الأدوية

Introduction to Pharmacology

(503201)

2 credit Hours

This course is divided to three units as the following:

- I- Fundamentals of Pharmacology
- II- Autonomic Nervous System
- III- Chemotherapy

The course is given in 17 weeks, 2 one-hour lectures are given in each week.

I.a. The learning objectives of the first Unit:

By the end of this unit, the student should be able to:

1. Mention the different names and sources of drugs
2. Describe the different pharmaceutical preparations and methods of drug administration.
3. Describe pharmacokinetic of drugs including absorption, distribution, biotransformation (metabolism) and excretion .
4. Mention drug pharmacodynamics, in terms of structure activity relationship and the action of drugs through different human body targets such as ion channels, receptors, enzymes, macromolecules, carriers. etc.....
5. Explain the effects of pharmacokinetics on pharmacodynamics .
6. Discuss general strategies for maximizing the therapeutic effects of drugs.
7. Describe how interactions between drugs and foods could be minimized.
8. List the most serious adverse effects of drugs .
9. Write and read an ideal drug prescription

I.b. The Unit Contents:

This unit will describe fundamental topics in pharmacology like:

1. Mechanisms of drug action
2. Drug absorption and distribution
3. Metabolism and excretion of drugs
4. Pharmacokinetics
5. Drug metabolism and disposition in pediatric and gerontological stages of life
6. Drug toxicity and adverse effect
7. Drug-drug interactions
8. Drug legislations
9. Pharmacology of drugs in:-
 - Newborns
 - Pregnancy
 - Elderly
10. Prescription of drugs
11. Drug information

II. Autonomic Nervous System Unit:

II.a. The Learning objectives of this unit:

By the end of this unit, the student should be able to:

1. Differentiate the types of receptors in the autonomic nervous system.
2. Describe the effects of various drugs on the autonomic nervous system.
3. Correlate the effects of these drugs with their clinical applications and toxicity.

II.b. The unit contents:

1. General framework for the autonomic nervous system and receptors.
2. Action of agonists and antagonist drugs on the sympathetic system.
3. Action of agonists and antagonists, i.e. drugs on the parasympathetic system.
4. Action of drugs on the ganglia.

III. The Chemotherapy Unit:

III.a. The learning objectives of this unit:

By the end of this unit, the student should be able to:

1. Describe the actions of drugs on bacteria, viruses, fungi, and parasites.
2. Describe the primary therapeutic uses for the major chemotherapeutic classes .
3. Mention core antibacterial agents, antiviral agents, anti-fungal agents and anti-parasites agents, identify their doses, indications and side effects .

III.b. The unit contents:

1. Introduction to chemotherapy
2. Synthetic organic antimicrobials: Sulfonamides, Trimethoprim, Nitrofurans, Quinolones, Methenamine
3. β -lactam Antibiotics
4. Aminoglycoside Antibiotics
5. Tetracyclines, Chloramphenicol, Macrolides, and Lincosamides
6. Bacitracin, Glycopeptide Antibiotics, and the Polymyxins
7. Drugs used in Tuberculosis and Leprosy
8. Antiviral Drugs
9. Antifungal Drugs
10. Antiprotozoal Drugs
11. Anthelmintic Drugs

Tests & Evaluation:

Mid term course exam	40%
Quiz	10%
Final Exam	50%

Reference Books:

1. Modern Pharmacology, 6th edition, 2004
2. Rang and Dale Pharmacology, 2nd edition, 2003
3. Basic and clinical Pharmacology 7th edition, 1998