

University of Baghdad

College of Pharmacy

Department of Pharmaceutical Chemistry

Title of the course: *Organic Pharmaceutical Chemistry III* Course number: **427**

Level: 4th Class, 2nd Semester

Credit hours/week : **Theory 3 Laboratory 1**

Reference text: *Wilson and Gisvold Textbook of Organic Medicinal and Pharmaceutical Chemistry; Delgado JN, Remers WA, (Eds.); 10th ed., 2004.*

Objectives: To enable understanding mechanisms of drug action, including antibacterial, antifungal and antiviral agents, at molecular level, and the role of medicinal chemistry in the discovery and development of synthetic therapeutic agents. It also enables students to understand the concept of structure-activity relationship and its application in design and synthesis of new chemotherapeutic agents and hormone derivatives with potential biological activity.

No	Lecture title	hours
1	β -Lactam antibiotics (Penicillins); β -Lactamase inhibitors; Cephalosporins and Monobactams.	9
2	Aminoglycosides and Chloramphenicol; Tetracyclines; Macrolides; Lincomycins and Polypeptides; Antiviral agents (properties of viruses, viral classification, products).	9
3	Sulfonamides (chemistry, nomenclature, mechanism of action, resistance, toxicity, side effects, metabolism, protein binding, distribution and SAR); products; Sulfones.	4
4	Anti-neoplastic agents: Alkylating agents; Antimetabolites; Antibiotics; Plant products; Miscellaneous compounds.	17
5	Hormones and related compounds; Future anti-neoplastic agents; Monoclonal antibodies; Gene therapy of cancer.	6