

Name of the module: Pharmacology

Number of module: 471182010

BGU Credits: 4.5

ECTS credits:

Academic year: 2nd year Medicine

Semester: Second semester

Hours of instruction: Sun 14:00-16:00,

Mon 12:00-15:00 Thu 10:00-12:00

Total teaching time: Lectures: 42 hours,
Computer's lab: 18 hours

Location of instruction: Deichmann
Building for Health Professions.
Specific classroom numbers are
assigned yearly.

Language of instruction: Lectures will
be given in Hebrew.

Cycle: B. Med.Sc.

Position: Obligatory for 2nd year
preclinical medical students.

Field of Education: Pharmacology

Responsible department: Clinical
Biochemistry and Pharmacology

General prerequisites: Biochemistry
A, Cell Biology, Physiology

Grading scale: Successful passing of
the exam with a score of 65 or higher.

Module Description:

Provides the students with basic principles of pharmacology.

Aims of the module:

The module introduces basic principles of pharmacokinetics and pharmacodynamics as they play role in physiological systems.

Objectives of the module:

Each student will (1) develop a conceptual understanding of the basic principles of pharmacology (2) understand the modern medical application of pharmacology basics. (3) develop a problem solving methodology applicable, not only to this course, but to other academic and professional challenges ahead.

Learning outcomes of the module:

On successful completion of the course, the student should be able to:

1. Develop basic understanding of pharmacology concepts
2. Develop problem-solving skills,
3. Learn to apply key concepts of pharmacology as they occur in physiological systems

Attendance regulation: Attendance to the lectures is not obligatory, attendance to and submission of assignments and computer labs' reports is obligatory.

Teaching arrangement and method of instruction:

Instruction in the course is based on frontal oral lectures followed by computer labs and written assignments.

Lecturers: Sigal Fleisher-Berkovich,
David Stepansky, David Ben-Menahem,
Ayelet David, Elie Beit-Yanai

Contact details:

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Office hours: By appointment

Module evaluation: at the end of the semester the students and the lecturers will evaluate the course.

Confirmation: the syllabus was confirmed by the faculty academic advisory committee to be valid on 2012 (academic year)

Last update:2015

Assessment:

Students will be assessed in the module only by passing an exam with a score of 65 or higher, and by extra credit based on submission of written assignments.

Work and assignments: Solving problems, both written and computerized, and reading the relevant text book chapters (before lecture as a preparation, and after it as a review).

Time required for individual work: In addition to attendance in class (42h) and labs (18h), the students are expected to hand in written assignments, review the lectures and read the relevant book chapters. This course requires substantial work by the students after the lectures to process the learnt material and to generalize the concepts that were taught. Approximately 60 additional minutes are necessary per lecture (24 lectures). 16 assignments require each approximately 1 hour to solve.
Total: 100 hrs.

Course Content\ schedule and outlines:

- Pharmacodynamics: molecular mechanisms of drug action
- Physiological receptors, cell signaling pathways
- Pharmacokinetics: The dynamics of drug absorption, distribution, metabolism and elimination
- Neurotransmission: The autonomic and somatic motor nervous systems
- Muscarinic receptor agonists and antagonists
- Anticholinesterase agents
- Agents acting at the neuromuscular junction and autonomic ganglia
- Adrenergic agonists and antagonists
- Histamine and antihistamines
- Lipid derived autocooids: eicosanoids
- Anti-inflammatory, Antipyretic and analgesic agents
- Penicillins, Cephalosporins and other β -lactam antibiotics
- Aminoglycosides and macrolides
- Protein synthesis inhibitors and miscellaneous antibacterial agents
- Anti-cancer drugs – modern mechanisms of action

Textbooks:

Goodman and Gilman's , The Pharmacological Basis of Therapeutics 12th edition, Laurence L. Brunton, Bruce A Chabner
Sections: 1, 2, 4