



HUMANITAS MEDICAL SCHOOL

Course: PHARMACOLOGY

Year: 3rd

Period: annual

Credits: 8

Objectives

The Pharmacology course aims at providing a comprehensive understanding of the principles and applications of pharmacology in clinical medicine. In the first part, the course will provide solid foundations of the principles related to pharmacodynamics and pharmacokinetics processes, which represent the main pillars in pharmacology. In the second part, the course will be focused on the rational and evidence-based use of drugs in treating various diseases. This includes learning about the main class of pharmacological agents available for different conditions, understanding drug selection criteria, and evaluating the efficacy and safety profiles of drugs. These objectives collectively aim to equip medical students with a solid foundation in pharmacology, enabling them to face the subsequent courses with a proper background about the therapeutic strategies in clinical practice.

physiology is crucial as pharmacological agents often affect physiological processes at the cellular and systemic levels. Knowledge of the principles of pathology is necessary to comprehend how diseases and conditions can alter the pharmacokinetics and pharmacodynamics of drugs.

Microbiology and Immunology are also relevant because some drugs target microorganisms (e.g.,



Contents





GASTROINTESTINAL PHARMACOLOGY

Faculty member: prof. Michela Matteoli

Number of lessons: 2 (4hours)

Programme:

- gastrointestinal disorders
- Pharmacology of IBD

SEMESTER II

NEUROPHARMACOLOGY

Faculty member: prof. Michela Matteoli

Number of lessons: 13 (26 hours)

Programme:

- General principles of neuropharmacology: synapse as a drug target
- Pharmacology of neurodegenerative disorders (Alzheimer's disease and Parkinson's disease)
- Anxiolytics and hypnotic drugs.
- Pharmacology of mood disorders (antipsychotic drugs)
- Pharmacology of abnormal electrical neurotransmission (antiepileptic drugs)
- Addiction and drugs of abuse.

Pharmacology of the blood



Antiviral agents: drugs against Herpes viruses, Influenza viruses, Hepatitis viruses, SARS-CoV2.

ANTICANCER DRUGS

Faculty member: prof. Maurizio D'Incalci

Number of lessons: 6 (12 hours)

Programme:

8

General principles of personalized therapy.

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antimetabolites, natural products, miscellaneous.

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Hormones and their antagonists as antitumor agents.

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of drugs and their association with other therapeutic modalities (immunotherapy, surgery, radiotherapy).



Full exam

66 questions (each right answer 1 point) about the whole program of the course. To pass the exam, the student will have to answer to at least 40 questions correctly. Time allotted: 100 minutes.

Scores of the full exam on exams (1st semester + 2nd semester) will be based on the number of questions answered correctly as indicated in the following table:



Texts

- *"Basic & Clinical Pharmacology" (15e) Authors: Bertram G. Katzung Anthony J. Trevor*
- *"Goodman and Gilman's The Pharmacological Basis of Therapeutics" (13e) Authors: Laurence Brunton, Bjorn Knollmann*
- *"Pharmacology" Authors: Rang and Dale*
- *"General and Molecular Pharmacology: Principles of Drug Action" Authors: Clementi and Fumagalli*