



UNIVERSITÀ  
DEGLI STUDI DI MILANO-BICOCCA

## SYLLABUS DEL CORSO

### Farmacologia (Sondrio)

2021-1-I0101D005-I0101D015M-SO

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#### Aims

Know the basic mechanisms of the onset of disease and the means of defense. Understand the meaning of the laboratory tests and their clinical relevance. Acquire the basics of pharmacology. Acquire the basics of microbiology.

#### Contents

Learn the basics of drug administration, their absorption and distribution in the body and their elimination. Know how a compound form become a drug and the mechanism of action into the body.

#### Detailed program

Discovery and drug development. Study of drug. Preclinical phase. Clinical research. Evidence-based medicine (EBM). Pharmacovigilance. Pharmacogenetics. What a nurse should know about a drug. Pharmaceutical forms. Ways of administration of drugs. Dosage and influencing factors. Mechanisms of drug absorption. Distribution and transportation. Drug biotransformation. Elimination: main (kidney-biliary) and secondary ways. Main pharmacokinetic parameters (bioavailability, plasma concentrations, volume of distribution, redistribution, half-life, clearance). Drug binding to plasma proteins. Individual variability in drug response (age, sex, ethnicity, patients' conditions and disease). Placebo effect. Adverse drug reactions: hypersensitivity, idiosyncrasy, allergy. Iatrogenic diseases. Tolerance, dependence. Agonists, partial agonists, inverse agonists and antagonists competitive and non-competitive. Dose-response relationship. Therapeutic index. Synergy, additivity, antagonism, indifference. Milk and the unexpected grapefruit. Therapy in child and in the elderly. Drugs in pregnancy and lactation. Sanitizing skin and environmental. Antiseptic-disinfectant. Pesticides.

## **Prerequisites**

Positive evaluation in Biomedical Sciences 1.

## **Teaching form**

Lectures through presentations in electronic form of drawings and diagrams explaining concepts and functions of the organism. The lessons of some disciplines will be provided by teledidattica.

In the period of COVID-19 emergency the lessons will be online asynchronous and some events with synchronous videoconference

## **Textbook and teaching resource**

Page C.P., Curtis M.J., Sutter M.C., Walker M.J.A., Hoffman B.B. (1999) Farmacologia integrata, Milano, Casa Editrice Ambrosiana; Cella S.G., Di Giulio A.M., Gorio A., Scaglione F. (2010) Farmacologia generale e speciale per le lauree sanitarie, Padova, Piccin; Neal M.J. (1999) Farmacologia medica in uno sguardo, Pavia, La Goliardica Pavese

## **Semester**

1st Year, 2nd Semester

## **Assessment method**

Written examination: 60 closed quiz with multiple choice answer and one open ended question. The 60 quiz are subdivided for different subjects: 20 for general pathology, 20 for pharmacology, 10 for clinical biochemistry, 10 for microbiology. The examination will be passed with 36 exact answers.

In the COVID-19 emergency the examination will be online with 6 open question that cover the 4 discipline of the course.

## **Office hours**

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