



UNIVERSITÀ  
DEGLI STUDI DI MILANO-BICOCCA

## COURSE SYLLABUS

### Pharmacology

1920-1-I0102D005-I0102D015M

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#### Aims

PHARMACOLOGY-Acquire the basics of pharmacology

#### Contents

PHARMACOLOGY-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

PHARMACOLOGY-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.

## Textbook and teaching resource

PHARMACOLOGY

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;

- FOR ALL THE MODULES: Slides and bibliographic references

## Semester

II semester

## Assessment method

FOR THE ENTIRE COURSE: 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.

## Office hours

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