



UNIVERSITÀ  
DEGLI STUDI DI MILANO-BICOCCA

## SYLLABUS DEL CORSO

### Farmacologia

2223-3-H4601D014-H4601D037M

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#### Aims

At the end of the course the student should know:

General mechanisms of drug actions on organs and systems as well as at cellular, biochemical, and molecular levels - Routes of drug administration and drug fate in the organism, including drug transport, biotransformation, metabolic activation, distribution, elimination - General mechanisms of toxic effects and methods of prevention - Possible causes of drug undesired effects and drug-drug interactions - Pharmacological properties of the different groups of drugs commonly employed in dentistry, particularly their mechanisms of action and fate in the organism, and criteria for differentiation of molecules within same group, as a function of potential toxicity and physio-pathological characteristics of patients.

#### Contents

The teaching module provides the essential knowledge necessary to prescribe and administer the drugs currently used in dentistry, knowing in-depth the drug composition, mechanism of action, primary and secondary effects, and therapeutical indications.

#### Detailed program

Preclinical and clinical phases of drug development, pharmacovigilance - General and molecular pharmacology (molecular drug targets, receptors and transduction mechanisms, receptor tolerance, dose-response curves,

efficacy and potency, therapeutic index) - Pharmacokinetics (administration methods, adsorption, distribution, metabolism, elimination, therapeutic interval, pharmaco-metabolic tolerance) - Pharmacogenetics - Specific drugs for dentistry (local and general anesthetics, anxiolytics, non-steroidal and steroidal anti-inflammatory drugs, opioid analgesics, antihistamines, drugs affecting blood coagulation and hemostasis, drugs affecting calcium homeostasis).

## **Prerequisites**

Knowledge of all preparatory disciplines.

## **Teaching form**

The teaching will be performed in attendance, except for ministerial changes due to the COVID pandemic situation. Formal lectures and discussions of clinical cases will be utilized.

## **Textbook and teaching resource**

F.J. Dowd, B.S. Johnson e A.J. Mariotti "Pharmacology and Therapeutics for Dentistry", VII edizione, Elsevier, 2017.

Goodman & Gilman "Le Basi Farmacologiche della Terapia", XIII Edizione, Zanichelli, 2019.

Goodman & Gilman "Le basi farmacologiche della terapia – Il manuale", II Edizione, 2015.

## **Semester**

First semester.

## **Assessment method**

The final evaluation will consist in an oral exam aimed to assess whether the students have acquired the exact terminology of the subject, the application of the critical reasoning developed in class, and knowledge of the notions studied on the most important classes of drugs currently available in the field of dental pharmacology. It will be performed in attendance except for ministerial changes due to the COVID pandemic situation. There will not be any intermediate tests.

## **Office hours**

On appointment.

## **Sustainable Development Goals**

GOOD HEALTH AND WELL-BEING

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