



UNIVERSITÀ  
DEGLI STUDI DI MILANO-BICOCCA

## COURSE SYLLABUS

### Pharmacology

2526-1-F0902D009

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#### Aims

The course aims to provide the student with knowledge relating to the therapy of the main pathologies and to deepen the critical reading of the scientific literature on pharmacological topics.

1. Knowledge and understanding:  
Understand the key elements of pharmacology with attention to sex/gender and population differences
2. Applying knowledge and understanding:  
Be able to apply knowledge of basic concepts of pharmacology and clinical and preclinical drug development.
3. Making judgements:  
Demonstrate a critical approach, constructive skepticism, and a creative, research-oriented attitude. Build awareness of the importance and limitations of scientific thinking based on information obtained from a variety of resources.
4. Communication skills:  
Demonstrate the ability and capacity for teamwork among students and the ability to communicate information, ideas, problems, and solutions.
5. Learning skills:  
Collect, organize, and critically interpret new scientific knowledge and health/biomedical information from various available resources and databases.

#### Contents

The main classes of drugs will be treated using a didactic approach based on scientific literature.

## **Detailed program**

The course will cover the following topics:

- Drug development and pharmacovigilance
- Organization of pharmaceutical companies and company positions
- Bibliographic research
- Pharmacokinetics and pharmacodynamics
- Pharmacogenomics and personalized medicine
- Gender pharmacology
- Pharmacology of cholinergic transmission
- Pharmacology of catecholaminergic transmission
- Pharmacology of catecholaminergic transmission
- Pharmacology of serotonergic, GABAergic and glutamatergic transmissions
- Antidepressants
- Hallucinogenic psychotherapy
- Monoclonal antibodies
- Therapeutic use of oligonucleotides
- Innovative treatments of neurodegenerative diseases

## **Prerequisites**

Previous knowledge of the basic principles of chemistry, biochemistry, anatomy, physiology and pathology.

## **Teaching form**

Teaching with different teaching methods:

- 15 frontal lessons
  - 3 interactive lessons with a frontal part and a part of practical exercises in the classroom
  - 6 interactive lessons with a frontal part and a group work part
- All activities are carried out in the classroom

## **Textbook and teaching resource**

Slides and scientific literature

PRINCIPI DI BIOTECNOLOGIE MEDICHE E FARMACEUTICHE, L. Caffino, A. Cariboni, G. Casari, G. Cazzaniga, L. Marelli, N. Mitro, L. Musazzi, R. Piazza, A. Pistocchi, A. Pezzotta, G. Poli, D. Ramazzotti, F. Re, Edra.

## **Semester**

Second semester

## **Assessment method**

Oral examination

The final evaluation will be the average of the votes obtained in:

- Preparation of a Power Point presentation and oral presentation in English of the group work
- Oral examination on the topics covered in class

## **Office hours**

On appointment (write to: [laura.musazzi@unimib.it](mailto:laura.musazzi@unimib.it))

## **Sustainable Development Goals**

GOOD HEALTH AND WELL-BEING | QUALITY EDUCATION | GENDER EQUALITY

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