

# UNIVERSITÀ DEGLI STUDI DI MILANO-BICOCCA

### SYLLABUS DEL CORSO

# **Pharmacology**

2526-1-F0902D009

#### **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
- 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)

## **Sustainable Development Goals**

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