UNIVERSITÀ
DEGLI STUDI DI MILANO-BICOCCA

COURSE SYLLABUS

Pharmacology

2627-1-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

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:

- Pharmacokinetics and pharmacodynamics
- Drug development and pharmacovigilance
- Pharmaceutical company organization and corporate roles
- Pharmacology of cholinergic transmission
- Pharmacology of catecholaminergic transmission
- Pharmacology of serotonergic, GABAergic, and glutamatergic transmission
- Monoclonal antibodies
- Oligonucleotide therapies
- Pharmacogenomics and personalized medicine; Gender pharmacology
- Literature research
- Antidepressants
- Hallucinogenic psychotherapy
- New approaches in the treatment 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