



UNIVERSITÀ
DEGLI STUDI DI MILANO-BICOCCA

SYLLABUS DEL CORSO

Pharmacology

2021-1-F0901D045

Aims

The students will learn: (i) the biological mechanisms underlying the effects induced by drugs acting on CNS, their abuse and dependence, the genetic determinants that influence their responses; (ii) the differences between conventional and biological drugs and what are the biosimilars; (iii) the principles that regulate drug patenting and their accessibility. In addition, through the discussion of scientific articles, the students will learn the main experimental methods to study drugs.

Contents

Drugs acting on the Central Nervous System (CNS): mechanisms of action, effects, and experimental methods of study. Drug abuse and dependence. Pharmacogenetics and pharmacogenomics. Biological drugs and biosimilars. Drug patents and access.

Detailed program

Cellular and molecular basis of the actions of drugs acting on the main psychiatric (antidepressants, mood stabilizers, antipsychotics, anxiolytics) and neurological (antiepileptics, antiparkinson, cognition enhancers), opioid analgesics and general anesthetics. Neurobiological basis of drug abuse and dependence. Differences between conventional chemical and biological drugs. Biosimilars. Genetic determinants that influence drug responses. Principles of drug patenting and international laws that regulate drug availability. Main experimental methods that are employed to study drugs.

Prerequisites

Knowledge of chemistry, biochemistry, molecular and cell biology, genetics, anatomy, physiology, pathology.

Teaching form

The course is entirely taught in English. _____

and video recorded.

Textbook and teaching resource

Clementi F, Fumagalli G. General and Molecular Pharmacology: Principles of Drug Action. Sep 2015 Wiley.

Clementi F, Fumagalli G. Farmacologia generale e molecolare: V Edizione, 2018, Edra.

Vegeto E, Maggi A, Minghetti P. Farmaci biotecnologici: aspetti farmacologici e clinici. Casa Editrice Ambrosiana, 2020.

Goodman & Gilman's: The Pharmacological Basis of Therapeutics, Thirteenth Edition 2018, McGraw-Hill.

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

Goodman & Gilman's Manual of Pharmacology and Therapeutics. Second Edition 2013, McGraw-Hill.

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

Semester

Second semester.

Assessment method

During the Covid-19 emergency the exams will consist of an oral presentation in English or Italian of an original article by groups of 2-3 students carried out electronically from remote using the WebEx _____

Office hours

On appointment.
