



Direzione Innovazione
e Internazionalizzazione

**UNIVERSITÀ
DI TORINO**

ID

VP005_BIOTEC

Visiting Professor Program Academic Year 2024/2025

TEACHING COMMITMENT: 16 hours

COURSE TITLE

Medicinal Chemistry A

TEACHING PERIOD

1st term

SCIENTIFIC AREA

Medicinal Chemistry

LANGUAGE USED TO TEACH

English

COURSE SUMMARY

Course A aims to provide students with the basic concepts of Medicinal Chemistry and Drug Discovery that brings the students to understand the chemical and physical properties of the molecules in the pharmaceutical field. Students will build a chemical understanding of the role of drugs, diagnostic agents and nanosystems.

LEARNING OBJECTIVES

This course will begin with an introduction to conventional medicinal chemistry, highlighting the chemical design and application of medicines and why new systems are constantly required. The application of nanomedicine in vitro (e.g. biosensors and diagnostic devices) and in vivo (e.g. drug delivery) will be covered.

The course explores how chemists modify a molecule's structure to design a safe and effective drugs and diagnostic agents. In particular, the principal phases of drug action, the molecular mechanisms of drugs and the drug discovery and development process will be discussed.

The module A of the course will provide a comprehensive assessment of the state-of-the-art of biological and biomedical applications of nanomaterials. The course encompasses the unique capabilities of nanoparticles and drug delivery systems or for in vitro detection, in vivo diagnosis, multimodal imaging, chemo-, photo-, gene-, and immunotherapy, theranostics, and their clinical translation.

OTHER ACTIVITIES BESIDES THE COURSE

Seminars and dissemination conferences.

VISITING PROFESSOR PROFILE

The VP must have experience in teaching and research experience in pharmaceutical technology, drug delivery carriers, nanoparticles, targeted medicine and their interactions at biobarriers.

CONTACT REFERENT

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