UNIVERSITÀ
DEGLI STUDI DI MILANO-BICOCCA

# COURSE SYLLABUS

## Radiotherapy Techniques

**2324-3-I0303D015**

### Aims

The course aims to provide students with: the knowledge of radiotherapy equipment, the various techniques of irradiation (external beam radiotherapy brachytherapy), the methods for calculating the dose distribution and principles of dose optimization; it also aims to provide knowledge about the different modality of irradiation depending on the main tumors.

### Contents

The course aims to provide students with the knowledge about Radiotherapy Oncology

### Detailed program

Radiotherapy equipments. The various stages of the radiotherapy:

prescription, centering, simulation, acquisition of anatomical data, preparation of treatment plan, evaluation plan, implementation, testing, monitoring during treatment, monitoring over time.

The choice of beams: photons and electrons.

The choice of energy. The shaping of the beam. The conformation. The intensity modulation. The geometry of irradiation.

Dose fractionation. The volumes of interest. ICRU reports. The set-up of the patient: positioning and immobilization. Imaging in Radiotherapy. The quality controls. The recording of treatment data.

Brachytherapy: Indications; devices for intracavitary and interstitial treatments, and the different radioisotopes; loading modes: pre-loading, after-loading,-remote-loading

## Prerequisites

Health Care and Disease Prevention

## Teaching form

Lectures and exercises

## Textbook and teaching resource

Teachers will provide educational materials

## Semester

First semester

## Assessment method

Written and oral exam.
The written test will consist of multiple choice questions for each module.
The oral exam will consist of a more in-depth assessment of knowledge of the topics covered in the course modules through open questions, with questions possibly related to errors made during the written exam.
The overall evaluation will be expressed in thirtieths.

## Office hours

By appointment required by mail

## Sustainable Development Goals

GOOD HEALTH AND WELL-BEING