UNIVERSITÀ
DEGLI STUDI DI MILANO-BICOCCA

COURSE SYLLABUS

Radiotherapy Techniques

2021-3-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 thedose 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 test about RT equipments, Clinical Dosimetry, Radiobiology and Clinical Radiotherapy and only oral test about the topics of the other modules.

The final mark is based on the average score obtained by the students during the different evaluations

Office hours

By appointment required by mail