UNIVERSITÀ
DEGLI STUDI DI MILANO-BICOCCA

COURSE SYLLABUS

Creation and Processing of Ct and Angiographic Images

2425-2-I0303D008-I0303D037M

Aims

The student will have to gain and prove skills about image reconstruction, visualization and processing in CT and angiographic protocols.

Contents

The course aims to provide students with theoretical knowledge, techniques and practices about reconstruction, visualization and post-processing of Computed Tomography and Angiography images for the study of different organs or systems.

Detailed program

- Analytical, iterative and AI based TC reconstruction algorithms
- Spatial image filtering
- Visualization techniques: MPR, MIP, Surface Rendering, Volume Rendering, Global Illumination Rendering
- CT image quality parameters
- CT image segmentation: methods and applications
- Image fusion and registration: methods and applications

Prerequisites

Diagnostic Imaging Techniques I

Teaching form

Monza
6 frontal lessons of 2 hours carried out in attendance

Bergamo
2 frontal lessons of 2 hours carried out in attendance
4 lessons of 2 hours carried out in interactive mode in attendance (Game Based Learning technique)

Textbook and teaching resource

Teaching material provided by the teacher.

“Tecniche di Tomografia Computerizzata e Risonanza Magnetica”, Cei Luigi, Ed. Universo.

Semester

First semester

Assessment method

Monza
3 open questions to check preparation on the exam programme, ability to organize knowledge and presentation ability in the disciplinary field

Bergamo
Closed-answer tests (multiple choice questions) and written open questions to evaluate preparation on the exam program and expository ability in the disciplinary field. Possible additional oral interview if requested by the teacher or student.

Office hours

By appointment required by mail

Sustainable Development Goals