

# UNIVERSITÀ DEGLI STUDI DI MILANO-BICOCCA

# **COURSE SYLLABUS**

# **Medical Physics**

2021-1-H4102D008-H4102D024M

#### **Aims**

Students will receive the practical, theoretical and IT skills to analyse and to correctly understand the experimental data. This knowledge will form the primary basis for a rationale approach to the knowledge of medical sciences.

#### **Contents**

Introduction to OriginLab Program

Data import procedures

**Data Visualization** 

Mathematical models and fitting procedures

Analysis of patient data to determine physiological parameters.

# **Detailed program**

Data import procedures

Importing simple text files

Recognition of different data storage formats
Generation of numerical matrices for data management
Displaying data
Introduction to the different ways of graphic representation
Graphs in linear logarithmic and bilogarithmic scale
Mathematical models and methods of fit
Analysis of patient data to determine physiological parameters
Analysis of respiratory data
Analysis of data of blood parameters
Analysis of Electrophysiological data
Prerequisites
Basic knowledge of mathematics and analysis and IT
Teaching form
Lessons, seminars, laboratory practice
During the Covid-19 emergency period, lessons could take place in a mixed mode: partial presence and asynchronous / synchronous videotaped lessons with some physical presence events.
Textbook and teaching resource
OriginLab Help online:
https://www.originlab.com/index.aspx?go=Support/DocumentationAndHelpCenter
Semester
2nd term

# **Assessment method**

Assessment of the suitability on the basis of the attendance/participation to the laboratory activities.

Knowledge and skills will be further assessed during the "Basic sciences" examination, with the modalities there described.

### Office hours

See "Clerkship 2"