UNIVERSITÀ
DEGLI STUDI DI MILANO-BICOCCA

SYLLABUS DEL CORSO

Fisica Medica

2324-1-I0102D004-I0102D013M

Aims

Provide students with the knowledge of general physics and medical physics necessary to carry out the profession.

Contents

The course will provide basic notions of physics, including: classical mechanics, fluid dynamics, thermodynamics, electrostatics. Emphasis will be given to physics that is most relevant to the profession (levers, echography, osmosis).

Detailed program

Mechanics: scalars and vectors, kinematics, forces and Newton's laws, inclined plane, work and energy, levers

Physics of waves: sound waves, Doppler effect, principles of echography

Electromagnetism: Coulomb forces, elettric field and potential, kinematics of charges, capacitor, current and Ohm's law.

Fluid dynamics: mechanics and statics of fluids, Bernoulli theorem, viscosity, surface tension

Thermodynamics: heat, ideal and real gases, work and transformations, principles of thermodynamics, heat transfer, diffusion and osmosis

Prerequisites

Basic knowledge of mathematics.

Teaching form

Interactive lectures and workshops online and/or in presence, use of e-learning platform for additional readings.

Textbook and teaching resource

Scannicchio D. Giroletti E. (2015) Elementi di Fisica Biomedica, Edises, Milano.

Semester

1st Year, 2nd Semester

Assessment method

Take-home written assigment (test with multiple choice and/or open ended questions).
Oral exam with discussion on the written assigment and on all the topics covered during the lessons.

Office hours

By appointment (via e-mail).

Sustainable Development Goals

GOOD HEALTH AND WELL-BEING | QUALITY EDUCATION