



UNIVERSITÀ
DEGLI STUDI DI MILANO-BICOCCA

SYLLABUS DEL CORSO

Scienze Propedeutiche

1718-1-H4101D252

Aims

CHEMISTRY AND BASIC BIOCHEMISTRY: Atomic structure. Solutions. Chemical bonds. Chemical reactions and catalysis. Acids and bases and buffer solutions. Organic compounds and functional groups: structural properties of organic molecules and chemical reactivity. The compounds of life: carbohydrates, amino acids, nucleotides, lipids. Proteins. Polysaccharides. Nucleic acids

PHYSICS: Physics of radiation; X-Rays. Radioactive decays: alpha, beta, gamma and nuclear reactions. Radiation-matter interaction. Biomechanics: Moment of a force and statics of the rigid body. Equilibrium of a rigid body. Thermodynamics: thermology, thermodynamics, temperature and heat. Internal energy and enthalpy. The first and second law of thermodynamics, and entropy.

Contents

The primary goal of the course is to provide students with the tools for the understanding of the complex reactions that represent the molecular basis of life, and with the fundamentals to identify the cause-effect relations of the most important chemical and physical processes for the curriculum and the work of a physician. This knowledge will form the primary basis for a rationale approach to the knowledge of medical sciences.

Detailed program

Prerequisites

Teaching form

Textbook and teaching resource

A. Fiecchi, M. Galli Kienle, A. Scala Chimica e Propedeutica Biochimica Ed. Edi Ermes.

E. Santaniello, M. Alberghina, M. Coletta, S. Marini Principi di Chimica Generale e Organica Ed. PICCIN

F.A. Bettelheim, W.H. Brown, M.K. Campbell, S.O. Farrell Chimica e Propedeutica Biochimica EdiSES

F. Borsa, A. Lascialfari Fisica Medica Ed. Edises

Semester

First semester

Assessment method

Office hours
