

Programma Esame I anno: Biochimica I
Struttura e Funzione delle Macromolecole Biologiche
Proff. Desideri, Rosato, Paci, e Caccuri

First year. Coordinators: Proff. S Desideri, N Rosato, M Paci, Caccuri

[Structure and function of biological macromolecules]

Teaching will provide detailed information on structural Biochemistry and Biophysics, and related biotechnological applications. Topics include:

(a) Properties of important biological macromolecules (as carbohydrates, fatty acids, proteins);

(b) Structure and function of metalloproteins, with reference to enzymes involved in the process of cell detoxification (as superoxide dismutase);

(c) Structure and function of hemoproteins, particularly myoglobin and hemoglobin. Gene organization and evolution aspects;

(d) Structure and function of hormones, particularly beta-endorphines;

(e) A spectroscopic study of specific proteins' active site;

(f) Thermodynamics and kinetics of protein folding;

(g) Studies of protein structure, by high resolution NMR and circular dichroism (CD);

(h) Computer modeling and kinetic models for proteins intramolecular motion.

Text: Mathews & van Holde, BIOCHIMICA, CEA Casa Editrice Ambrosiana, Milano,