



UNIVERSITÀ
degli STUDI
di CATANIA

DEPARTMENT OF BIOMEDICAL AND BIOTECHNOLOGICAL
SCIENCES

Master's Degree in Medical Biotechnologies

Academic Year 2018/2019 - 1° Year

BIOLOGIA MOLECOLARE AVANZATA

BIO/11 - 6 CFU - 2° Semester

Teaching Staff

VITO NICOLA DE PINTO

Email: vdpbiofa@unict.it

Office: Dlp. di Scienze Biomediche e Biotecnologiche, Edif.2, piano 3, Cittadella Universitaria S. Sofia, 95125 Catania

Phone: 095 7384244

Office Hours: martedì 12-14, giovedì 12-14

LEARNING OBJECTIVES

Learning Objectives of the course is a wide deepening of the main topics in Molecular Biology not studied in the undergraduated courses. A main topic will be the study of structural interactions between proteins and nucleic acid and the whole consequences of them. The Biotechnological approach to the production of molecules of scientific, medical and industrial application will be another main topic of the course.

COURSE STRUCTURE

The course will be mainly taught ex cathedra with the support of ppt slides that will be available to students by the web site STUDIUM

DETAILED COURSE CONTENT

Nucleic acid structure

Protein structure

Techniques to study nucleic acids and proteins

Data Banks of publications, nucleic acids and proteins

The main Bioinformatics applications

Interactions between nucleic acids and proteins

Physical structure of genomes

Recombinant proteins production in heterologous systems

Mutagenesis and protein engineering

Recombinant proteins of biotechnological interest

Biotechnological tools in health applications

Biotechnologies and Society

TEXTBOOK INFORMATION

Bernard R. Glick, Jack J. Pasternak, and Cheryl L. Patten. Molecular biotechnology : principles and applications of recombinant DNA , 5th ed, Taylor & Francis,

Zlatanova & van Holde, Biologia Molecolare: Struttura e dinamica dei Genomi e Proteomi, Zanichelli 2018

Brown Biotechnologie molecolari, Zanichelli 2016
