UNIVERSITÀ DI PAVIA

Anno Accademico 2021/2022

MOLECULAR BIOLOGY

Enrollment year	2020/2021
Academic year	2021/2022
Regulations	DM270
Academic discipline	BIO/11 (MOLECULAR BIOLOGY)
Department	DEPARTMENT OF BIOLOGY AND BIOTECHNOLOGY "LAZZARO SPALLANZANI"
Course	BIOTECHNOLOGY
Curriculum	PERCORSO COMUNE
Year of study	2°
Period	1st semester (01/10/2021 - 14/01/2022)
ECTS	9
Lesson hours	72 lesson hours
Language	Italian
Activity type	ORAL TEST
Teacher	MATTEVI ANDREA (titolare) - 6 ECTS BINDA CLAUDIA - 3 ECTS
Prerequisites	Basic knowledge in Chemistry, Physics and Mathematics, besides the basics on cellular components, is virtually a must for successfully following and tackling the course.
Learning outcomes	Knowledge of the molecular bases of cellular processes and the main molecular biology techniques.
Course contents	The main theme of the course is the study of the biological macromolecules and their function in fundamental biological processes. Structure and function of DNA. DNA replication. Transcription and its regulation. Translation: structure and function of ribosomes Protein synthesis e folding mechanisms in vivo and in vitro. Methods for DNA manipulation and cloning.

Teaching methods

The course is organized in two parts: the first (6 CFU) deals with the various biological processes at molecular level, whereas the second (3 CFU) describes the basic techniques of molecular biology. Both are carried out by lectures and NO practicals are included because the methods will be fully covered during the laboratory activities in the third year.

Reccomended or required readings

- Molecular Biology of the cell, 6th Edition, Alberts et al, Garlanda Science

-Bruce Alberts, Karen Hopkin, Alexander Johnson, David Morgan, Martin Raff, Keith Roberts, Peter Walter
L'ESSENZIALE DI BIOLOGIA MOLECOLARE DELLA CELLULA Quinta edizione 2020

-Bruce Alberts, Alexander Johnson, Julian Lewis, David Morgan, Martin Raff, Keith Roberts, Peter Walter
BIOLOGIA MOLECOLARE DELLA CELLULA
Sesta edizione 2016

Assessment methods

The exam consist in an oral exam in which the student will be asked to reply on questions related to both course parts and, if sufficient, the final mark (agreed by both teachers) will be on a scale range of 18 to 30 cum laude.

Further information

No practicals are included as this course is dispensed as lectures. During the 3rd year the course "Laboratorio Integrato" will incluse practicals on the techniques.

Sustainable development goals - Agenda 2030

As this course is intended to provide the students with the basic concepts of molecular biology, no lectures specifically dedicated to Agenda2030 will be included.
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