UNIVERSITÀ DI PISA

BIOCHEMISTRY AND MOLECULAR BIOLOGY

ANTONIETTA RAFFAELLA MARIA SABBATINI

Anno accademico	2019/20
CdS	MEDICINE AND SURGERY
Codice	050EE
CFU	15

Moduli	Settore/i	Tipo	Ore	Docente/i
BIOCHIMICA	BIO/10	LEZIONI	144	SANDRA GHELARDONI ANTONIETTA RAFFAELLA MARIA SABBATINI
BIOLOGIA MOLECOLARE	BIO/11	LEZIONI	36	SILVIA PELLEGRINI

Learning outcomes

Knowledge
The student, who completes the course successfully, will be able to demonstrate a solid knowledge of the biochemical basis of cellular functions and tissue physiology, as well as the organization of the human genoma and the regulation of gene expression. He or she will acquire the ability to understand the biochemical basis of human disease and to understand the application of biochemical and molecular biology techniques to biological and medical issues.

Assessment criteria of knowledge
The student will be assessed on his/her demonstrated ability to discuss the main course contents using the appropriate terminology. He or she must be able to demonstrate adequate knowledge of the basic issues of biochemistry and molecular biology and to apply them to biological and/or medical problems.
Methods:

- Final written exam
- Periodic written tests

Further information:
The final examination consists in a wrtitten assay in which the student must answer 12 open questions in 3 hours.

Teaching methods

Delivery: face to face
Learning activities:

- attending lectures
- participation in discussions
- individual study

Attendance: Mandatory
Teaching methods:

- Lectures
- Seminar
- Task-based learning/problem-based learning/inquiry-based learning

Syllabus

Protein structure. Enzyme function and oxygen trasnporting molecules. Structure and function of lipids and carbohydrates. Structure and function of nucleic acids. General principles of metabolism. Detailed analysis of the metabolic pathways in glucose, lipid, nucleotide and amino acid metabolism. DNA replication and reparation, gene structure, and genome organization. Translation, post-translational modifications, and regulation of gene expression. Protein synthesis and its regulation. Molecular mechanism of signal trasnduction. basic techniques in biochemistry and molecular biology.

Bibliography

All the fundamental topics are dealt with during the course. It is recommended that students integrate their preparation using one of the interational standard textbooks, for instance: Voet, Voet & Pratt: Foundamental of Biochemistry Nelson, Cox: Principles of Biochemistry Mathews, Van holde, Ahern: Biochemistry

Assessment methods

Contextual written final exam.

Updated: 02/04/2020 21:11