



ANIMAL CELL BIOLOGY (SURNAMES A-K)

Enrollment year	2020/2021
Academic year	2020/2021
Regulations	DM270
Academic discipline	BIO/06 ()
Department	DEPARTMENT OF BIOLOGY AND BIOTECHNOLOGY "LAZZARO SPALLANZANI"
Course	BIOTECHNOLOGY
Curriculum	PERCORSO COMUNE
Year of study	1°
Period	
ECTS	6
Lesson hours	48 lesson hours
Language	Italian
Activity type	WRITTEN TEST
Teacher	MERICO VALERIA (titolare) - 6 ECTS
Prerequisites	Basic knowledge of the structure of biological macromolecules and of the function of the main cell organelles.
Learning outcomes	To stimulate the study of the cell substructures from morphological, functional and molecular prospective with constant recall of the chemical processes involved. To provide students know-how and reasoning strategies for identifying potential subjects for the development of biotechnological applications.
Course contents	Biological macromolecules: proteins, nucleic acids, carbohydrates, lipids. Role of covalent and non-covalent bonds for macromolecule structure. Structure and function of cellular structures: plasma membrane, endomembrane system (rough and smooth endoplasmic reticulum, ribosomes, Golgi apparatus, endocytosis and exocytosis, lysosomes). Anaerobic and aerobic metabolism: glycolysis, mitochondria,

	peroxisomes. Cytoskeleton and cell motility (microfilaments, microtubules, intermediate filaments). Eukaryotic cell nucleus (nuclear envelope, nuclear lamina, nuclear pores, chromatin, nucleolus). Cell reproduction (mitosis, meiosis). Elements of Histology.
Teaching methods	Lectures carried out through ppt presentations. The PDFs of the slides will be uploaded to kiro (https://idcd.unipv.it/kiro3/) and available to students. Practical lesson could be organized focused at acquiring basic skills in the use of the optical microscope and the observation of histological and cellular preparations.
Reccomended or required readings	Colombo e Olmo: BIOLOGIA -CELLULA E TESSUTI. EdiErmes
Assessment methods	<p>The exam will be written. The questions include the full program topics and are organized as followed:</p> <ul style="list-style-type: none"> - three true or false questions (maximum score 2 points/each); - three short answer questions (maximum length of answer: 5 lines) and maximum score: 2 points/each; - two open questions (maximum length of answer: 15 lines). Maximum score: 5 points/each; - one open question (maximum length of answer: 30 lines). Maximum score: 10 points/each. <p>The exam will be passed with a score equal or greater than 18/30. The maximum score is 30/30 cum laude (which will be assigned when the score is greater than 30).</p>
Further information	none
Sustainable development goals - Agenda 2030	\$lbl legenda sviluppo sostenibile