



**UNIVERSITY OF BANJA LUKA**  
Faculty of Medicine  
Department of Human genetics



School year	Course	Study program	Cycle study	Year of study	Semester	Number of students	Number of practical groups
2024/2025.	Biology of cell and human genetics	Medicine	First	First	I		3

**PLAN AND PROGRAM OF LECTURES**

Week I	Lecture	Tematic unit	Day	Date	Time	Place	No.of classes	Professor
I	1	Introduction to Cell Biology. research methods in Cell biology	Thursday	3.10.2024.	12:30-14:00	Amphitheater	2	Dr. Vanja Vidović, assistant professor
II	2	Evolution of the cell	Thursday	10.10.2024.	12:30-14:00	Amphitheater	2	Dr. Vanja Vidović. assistant professor
III	3	Chemical components of the cell: water, ions, elements, carbohydrates, lipids, nucleic acids and proteins.	Thursday	17.10.2024.	12:30-14:00	Amphitheater	2	Dr. Vanja Vidović, assistant professor
IV	4	Structure of acellular forms of life (viruses, prions and viroids).	Thursday	24.10.2024.	12:30-14:00	Amphitheater	2	Dr. Vanja Vidović, assistant professor
V	5	Organization of the prokaryotic cell (bacteria and cyanobacteria).	Thursday	31.10.2024.	12:30-14:00	Amphitheater	2	Dr. Vanja Vidović, assistant professor

VI	6	Organization of the eukaryotic cell (animal and plant).	Thursday	7.11. 2024.	12:30-14:00	Amphitheater	2	Dr. Vanja Vidović, assistant professor
VII	7	Structure and role of membranes and membrane transport	Thursday	14.11. 2024.	12:30-14:00	Amphitheater	2	Dr. Vanja Vidović, assistant professor
VIII	8	Structures and roles of cytoskeleton , centrioles , cilia and flagella, endoplasmic reticulum, Golgi complex	Thursday	21.11. 2024.	12:30-14:00	Amphitheater	2	Dr. Vanja Vidović, assistant professor
IX	9	Structure and role of lysosomes , peroxisomes	Thursday	28.11. 2024.	12:30-14:00	Amphitheater	2	Dr. Vanja Vidović, assistant professor
X	10	Glycolysis, cellular respiration, enzymes	Thursday	5.12.2024.	12:30-14:00	Amphitheater	2	Dr. Vanja Vidović, assistant professor
XI	11	Structure and role of ribosomes and nucleus	Thursday	12.12. 2024.	12:30-14:00	Amphitheater	2	Dr. Vanja Vidović, assistant professor
XII	12	Chromosomes, DNA, RNA	Thursday	19.12.2024.	12:30-14:00	Amphitheater	2	Dr. Vanja Vidović, assistant professor
XIII	13	Cell cycle. Apoptosis	Thursday	26.12.2024.	12:30-14:00	Amphitheater	2	Dr. Vanja Vidović, assistant professor
XIV	14	Medical cytology	Thursday	16.1.2024.	12:30-14:00	Amphitheater	2	Dr. Vanja Vidović, assistant professor
XV	15	Test I	Thursday	23.1.2024.	12:30-14:00	Amphitheater	2	Dr. Vanja Vidović, assistant professor

### PLAN OF EXERCISES

Week	Exercise	Thematic unit
I	E1	Microscope and usage of microscope. Methods in cellular research.
II	E2	Microscopic specimen production. Methods of cell cultures <i>in vitro</i> .
III	E3	Acellular form of life- viruses, prions and viroids.
IV	E4	Prokaryotic cell- bacteria and cyanobacteria
V	E5	Eukaryotic cell- algae and fungi
VI	E6	Plant cell- cell wall, cytoplasm, plastids

VII	E7	Animal cell- cell membrane and transport
VIII	E8	Animal cell- endoplasmic reticulum, Golgi complex, lysosomes and peroxisomes
IX	E9	Animal cell- mitochondria, cytoskeleton, centrioles, cilia and flagella
X	E10	Animal cell- nucleus and nucleolus
XI	E11	Mitosis and meiosis, gametogenesis
XII	E12	Techniques of chromosome analysis
XIII	E13	Apoptosis .
XIV	E14	Medical cytology
XV	E15	Colloquium 1