Study progammes: Bachelor studies

Course title: Cell Biology

Lecturer: Nebojsa Andric, PhD

Status: required courses

ECTS: 6

Requirements: none

Learninig objectives: Cell Biology is the basic course for other courses in morphology, anatomy, physiology, biochemistry, genetics, evolution, and ecology of living organisms. Learninig objective of this course is to provide students with fundamental knowledge in structure, ultrastrucutre and function of acellualar (viruses, prions and viroids), procariotic (bacteria and cyanobacteria) and eucariotic (fungi, algea, animal and plant) cellular forms.

Learninig outcomes: After completion of the course, it is expected that the students will gain knowledge in: (i) structure and function of procariotic and eucariotic cells; (ii) relationship between the molecular structure and the function of cells.

Syllabus

Theoretical instruction

Introduction to Cell Biology, Methods in Cell Biology, Acellular Life Forms, Procariotic Cellular Forms, Eucariotic Cellular Forms, Organization of Animal Cells, Membranes And Transport, Cell Structures, Cytoskeleton, Centrioles, Flagellae And Cilliae, Ribosomes, Endoplasmic Reticulum, Golgi Complex, Peroxisomes, Nucleus, Cell Cycle, Cell Death, Plant Cells.

Practical instruction

Acellular Life Forms-Viruses. Acellular Life Forms-Prions And Viroids. Procariotic Cell-Bacteria. Procariotic Cell-Cyanobacteria. Eucariotic Cell-Algae. Eucariotic Cell-Fungi. Animal Cell-Structure of Animal Cell, Nucleus And Nucleolus. Animal Cell-Cell Membrane. Animal Cell- Endoplasmic Reticulum And The Golgi Apparatus. Animal Cell-Lysosomes and Peroxisomes. Animal Cell-Mitochondria And The Cyotskeleton. Animal Cell-Centiroles, Cilliae And Flagellae. Plant Cell-Cell Wall And The Plasmodesmata. Plant Cell-Cytoplasm And Plastids. Plant Cell-Vacuole, Turgor, Plasmolysis.

Literature

1. Essential Cell Biology, Bruce Alberts, Dennis Bray, Karen Hopkin, Alexander D Johnson, Julian Lewis, Martin Raff, Petere Walter 4th Edition- Garland Science (2013)

Weekly teaching load	**Lectures:** 2	**Exercise:** 2

Teaching metohodology: Lectures, experimental work

Grading method (maximal number of points 100)

Pre-final exam	points	**Final exam**	поена
Activity during lectures	2,5	Exam	70
Activity duirng experimental work	7,5		-
Coloquium	20	.....	