

Study Programme : BSC in Biology / Ecology				
Degree level: Bachelor degree				
Course Title: Cell Biology				
Professor: Rada Rakić				
Required/Elective Course: Required Course				
Number of ECTS: 6				
Prerequisites: None				
Course Objective: Cell biology course is a base of all other Biology curricula courses which treated morphology, anatomy, physiology, biochemistry, genetics, evolution and ecology of living organism. Goal of this course is to introduce students with main structural and ultrastructural characteristic of: acellular forms of life (viruses, prions and viroids), prokaryotic cells (bacteria and cyanobacteria), eukaryotic cells (fungi, algae, animal and plant) and to provide an understanding of the fundamental mechanisms of cellular function and to develop critical thinking skills in the context of modern cell biology.				
Course Outcome: At the completion of this course students should be able to: demonstrate a basic understanding of fundamental prokaryotic and eukaryotic cell biology and major classes of molecules found in living organisms and the relationship between molecular structure and biological function				
Course Content: <i>Theoretical part</i> Introduction to the Cell biology. Methods in Cell biology investigations. Acellular forms of life (viruses, prions and viroids). Prokaryotic cell (organization of the cell on the examples of the bacterial and cyanobacterial cells). Eukaryotic cell of algae and fungi. Eukaryotic animal cell. Internal organization of the animal cell. Membrane structure and membrane transport. Intracellular compartments. Cytoskeleton. Centriole. Cilia and flagella. Ribosomes. Endoplasmic reticulum. Golgi apparatus. Lysosomes. Peroxisomes. Nucleus. Cell Cycle. Cell Death. Eukaryotic plant cells (structure and function). Vacuoles. Plastids. <i>Practical part</i> Laboratory practice covers: examination of acellular forms of life (viruses, prions and viroids), prokaryotic cells (bacteria, cyanobacteria) and eukaryotic cells (algae, fungi, animal and plant cells) using permanent and fresh preparations for light microscopy and electron micrographs.				
Reading List: 1. Jerant-Patić, V. (1995). <i>Medical virology</i> (in Serbian). Zavod za udžbenike i nastavna sredstva, Belgrade, (selected chapters). 2. Jarak, M., Govedarica M. (2003). <i>Microbiology</i> (in Serbian). University of Novi Sad, Faculty of Agriculture, Novi Sad, (selected chapters). 3. Avramović, V., Mojsilović, M., Lačković V., Petrović, A. (2003). <i>Cytology</i> (in Serbian). Grafika Galeb, Niš. 4. Anđelković Z, Somer, Lj., Matavulj, M., Lačković, V., Lalošević D., Nikolić, I., Milosavljević, Z., Danilović, V. (2002). <i>Cell and Tissue</i> (in Serbian). Bonafides, Niš, (selected chapters). 5. Matavulj, M. (2004) <i>Animal cell</i> (script in Serbian). University of Novi Sad, Faculty of Sciences, Novi Sad. 6. Petrović, O., Knežević, P. (2006). <i>Cell Biology – Structure of acellular and cellular (pro and eukaryotic microorganism)</i> (Script), Novi Sad. 6. Arsenijević-Maksimović, J., Pajević, S. (2002). <i>Practicum of plant physiology</i> (in Serbian). University of Novi Sad, Faculty of Agriculture and Faculty of Sciences, Novi Sad, (selected chapters). 7. Merkulov, Lj., Luković J. (2003). <i>Botany-anatomy and morphology (practicum in Serbian)</i> . University of Novi Sad, Faculty of Sciences, Novi Sad, (selected chapters). 8. Kastori, R. (1998). <i>Plant physiology</i> (in Serbian). Feljton, Novi Sad, (selected chapters).				
Total hours:				
Lectures: 2	Practicals: 2	Other:	Student research work:	
Methods of instruction: Lectures, laboratory practice				
Assessment (maximum number of points 100)				
Requirements	points	Final exam	70	
Active participation in lectures	2,5	Practical exam		
Active participation in practicals	7,5	Oral exam		
Test(s) or	7			
Pre-exam testing	13			