

<b>Study Programme : BSc in Biology</b>			
Degree level: Bachelor degree			
<b>Course Title:</b> Algology			
<b>Professor:</b> Zorica Svirčev, Jelica Simeunović			
<b>Required/Elective Course:</b> elective			
<b>Number of ECTS: 5</b>			
<b>Prerequisites:</b>			
<b>Course Objective:</b> The course examines the role and importance of microalgae and cyanobacteria in natural ecosystems, in order to prepare students for the possibility of applying the knowledge acquired through solving various problems related to quality and environmental protection by applying the principles of sustainable development. Also algae and cyanobacteria are viewed as important bioindicators, biomarkers and microorganisms with biotechnological importance.			
<b>Course Outcome:</b> After successfully completed the pre-examination and examination commitments student can: -understand the structure of cyanobacteria and microalgae cells, the lawfulness of their growth and mass development; - understand and explain the role of microalgae and cyanobacteria in the ecosystem and explain the specific relationships with other organisms; -understand the role of microalgae and cyanobacteria in saprobiology, paleoclimate reconstruction and different biotechnological processes; -work independently in the algological laboratory.			
<b>Course Content:</b> <i>Theoretical part</i>  1) The origin, evolution and phylogeny of microalgae and cyanobacteria 2) Systematics and functional structure of microalgae and cyanobacteria cells 3) Importance and role in biotechnology, production of primary and secondary metabolites 4) Ecology of microalgae and cyanobacteria, importance and role in different types of habitats, ekstremofils, symbiosis 5) Microalgae and cyanobacteria as primary producers, the importance as bioindicators 6) Role of microalgae and cyanobacteria in the paleoclimate reconstruction, the importance of biomarkers 7) Importance of cultivation methods in determining the biodiversity and taxonomy of microalgae and cyanobacteria.  <i>Practical part</i>  1) Preparing of nutritional media for the isolation microalgae and cyanobacteria, isolation of terrestrial and water strains 2) Qualitative determination purified isolates of microalgae and cyanobacteria 3) Quantitative determination of biomass 4) Biodiversity and determining taxonomic affiliation by using cultivation methods 5) Identification of microalgae and cyanobacteria as bioindicators in saprobiology, 6) Toxins and pigment analysis and detection of biomarkers.			
<b>Reading List:</b> 1. Svirčev Z. (2005): Microalgae and cyanobacteria in Biotechnology. Faculty of Sciences, University of Novi Sad. 2. Blaženčić J. (1997): Systematics of algae. NNK, Belgrade. 3. Cvijan M. (2011): Algology. Script of Faculty of Biology, University of Belgrade, Belgrade.			
<b>Total hours:</b>			
Lectures: 2	Practicals: 2	Other:	Student research work:
<b>Methods of instruction:</b> Lectures using power point presentation on the video beam, film and slide projection, laboratory exercises, field work.			
<b>Assessment (maximum number of points 100)</b>			
<b>Requirements</b>	<b>points</b>	<b>Final exam</b>	<b>points</b>
Active participation in lectures	5	Practical exam	10
Active participation in practicals	5	Oral exam	40
Test(s) or	30		
Pre-exam testing	10		