

<b>Study program:</b> BIOLOGY			
<b>Type and level of studies:</b> Undergraduate studies			
<b>Course unit:</b> B 115 - Plant Physiology			
<b>Teacher in charge:</b> Biljana M. Bojović			
<b>Language of instruction:</b> English			
<b>ECTS:</b> 6			
<b>Prerequisites:</b> /			
<b>Semester:</b> Winter			
<b>Course unit objective</b> Acquiring basic theoretical and practical knowledge about physiological processes in plants and understanding the significance of these processes for adapting plants to the conditions of the environment.			
<b>Learning outcomes of Course unit</b> Understanding the complexity and principles metabolic processes in plants as well as mastering techniques and methods of laboratory work. Enabling students to acquire the knowledge apply in further scientific work, but also in areas such as agriculture and horticulture.			
<b>Course unit contents</b> <i>Theoretical classes:</i> Active and passive transport through cell membranes. Water balance of plants. Root pressure and transpiration. Uptake and transport of mineral salts. Translocation of organic compounds. Photosynthesis. Pigments. Effect of light on photosynthesis. Electron transport chain. Photosynthetic phosphorylation. Reductive pentose cycle. Fixation CO <sub>2</sub> in C-4 plants and succulents. Respiration. Assimilation and function of mineral elements. Mineral nutrition. Plant growth and morphogenesis. Phytohormones. Light control of growth and morphogenesis. Plant orientation in space and time. Germination. Photoperiodism. Developing fruits and seeds. Senescence. Abscission. <i>Practical classes:</i> Permeability of cell membranes. Plasmolysis. Osmotic Potential. Physiology of stomata. Extraction of photosynthetic pigments. Determination of the intensity of photosynthesis of aquatic plants. Determination of intensity of respiration. Germinating seeds. Examination of the function of phytohormones (hypocotyle test, endosperm test, coleoptile test, effect of cytokinin on chlorophyll retention). Mineral nutrition. <i>In vitro</i> culture tissue. Allelopathy.			
<b>Literature</b> Pearcy, RW, Ehleringer, RJ (1991): Plant Physiological Ecology: Field methods and instrumentation, Cluwer Academic Publishers, Dordrecht, Netherlands Lambers, H. (2008). Plant physiological ecology. New York: Springer-Verlag			
<b>Number of active teaching hours</b>			Other classes: /
Lectures: 45	Practice: 30	Other forms of classes: /	
<b>Teaching methods</b> Interactive teaching. Methods of individual work. Laboratory practice.			
<b>Examination methods (maximum 100 points)</b>			
<b>Exam prerequisites</b>	<b>No. of points</b>	<b>Final exam</b>	<b>No. of points</b>
Practical classes	20	Written examination	20
Tests		Oral examination	50
Homework		Other	
Seminars	10		
Project			
<b>Grading system</b>			
<b>Grade</b>	<b>No. of points</b>	<b>Description</b>	
10	>= 91	Excellent	
9	81-90	Exceptionally good	
8	71-80	Very good	
7	61-70	Good	
6	51-60	Passing	
5	<=50	Failing	