

Study Programme : MSc in Biology			
Degree level: Master degree			
Course Title: Physiology of woody plants			
Professor: dr Nataša Nikolić			
Required/Elective Course: Elective Course			
Number of ECTS: 8			
Prerequisites:			
Course Objective: The aim of the course is to introduce students with metabolic processes and physiological mechanisms during growth and development of woody plants.			
Course Outcome: Upon completion of this course students will be able to: - understand biochemical and physiological mechanisms in metabolism of woody plants - understand significance of woody plants in primary production of organic matter - understand physiological mechanisms in ecological adaptation during growth and development of woody plants - use internet sources and computer software. Students will be able to use their knowledge in further education and institutions dealing with production and selection of woody plants.			
Course Content: <i>Theoretical part</i> Introduction in physiological processes of woody plants. Growth of woody plants. Water relations. Water uptake, movement and loss. Specificity of mineral nutrition of woody plants: content of mineral elements, end mechanisms of ion uptake. Photosynthesis. Respiration. Physiology of growth and development of woody plants. Factors affecting plant growth. Physiology of seeds and fruits of woody plants. Propagation of woody plants. Mechanisms of ecological adaptations. <i>Practical part</i> Osmotic potential of plant cells. Determination of nitrogen and protein content. Determination of macroelements and heavy metals in ash. Photosynthesis. Respiration. Content of photosynthetic pigments, chlorophyll fluorescence, bioproduction. Activity of enzymes. Stomata density. Transpiration. Water deficit. Vegetative propagation of woody plants – grafting. Seed physiology. Growth of woody plants.			
Reading List: Kramer, P.D., Kozlovski, T.T.: Fiziologija drvenastih biljaka. Oljača R., Krstić, B., Pajević, S. (2006): Fiziologija biljaka. Univerzitet u Banjoj Luci, Šumarski fakultet (Ed.), Art Print, Banja Luka, s. 264. Arsenijević-Maksimović, I., Pajević, S. (2002): Praktikum iz fiziologije biljaka, Poljoprivredni fakultet, Prirodno-matematički fakultet, Novi Sad, s. 240.			
Total hours:			
Lectures: 2	Practicals:	Other: 2	Student research work:5
Methods of instruction: Lectures, lab work, supervised work			
Assessment (maximum number of points 100)			
Requirements	points	Final exam	points
Active participation in lectures	10	Practical exam	40
Active participation in practicals		Oral exam	
Test(s) or	50		
Pre-exam testing			
Remark:			