

Course Unit Descriptor

<b>Study Programme:</b> Soil Science and Plant Nutrition			
<b>Course Unit Title:</b> Physiology of Abiotic stress in plants			
<b>Course Unit Code:</b> 3MZI1I01			
<b>Name of Lecturer(s):</b> Full professor Ivana Maksimović, Assistant professor Marina Putnik-Delić			
<b>Type and Level of Studies:</b> Master Academic Studies			
<b>Course Status (compulsory/elective):</b> Elective			
<b>Semester (winter/summer):</b> Winter			
<b>Language of instruction:</b> English			
<b>Mode of course unit delivery (face-to-face/distance learning):</b> Face to face			
<b>Number of ECTS Allocated:</b> 5			
<b>Prerequisites:</b> Passed exam Plant physiology at the BSc level			
<b>Course Aims:</b> Acquiring of advanced knowledge in the field of role and impact of environmental factors on crop metabolism. Special emphasis will be on plant reactions to various stress factors and ways their tolerance may be increased, as ecophysiological studies lead to information fundamental for an understanding of the mechanisms underlying adaptive strategies			
<b>Learning Outcomes:</b> On successful completion of this subject, the students should be able to understand and critically analyse new literature considering effects of different abiotic and biotic factors on crop metabolism; and be able to use the acquired knowledge in their own research work or in practice			
<b>Syllabus:</b> <i>Theory</i> Definition and subject of ecophysiology, stress, acclimatization, adaptation. Impact of environmental factors on physiological processes: water regime, mineral nutrition, photosynthesis in C3, C4 and CAM plants, respiration, growth, development, fruiting. Effects and consequences of inadequate mineral nutrition. Non-parasitic diseases in crop plants. <i>Practice</i> Growing plants in a semi-controlled conditions, provoking stress (drought, hypoxia, lack of light) and following up the various parameters in these conditions.			
<b>Required Reading:</b> Larcher, W.: Physiological Plant Ecology. Springer-Verlag, Berlin, Heidelberg, New York, 1995. Pessaraki, M.: Handbook of Plant and Crop Physiology. Marcel Dekker, New York, 1994. Taiz L, Zeiger E, Møller IM, Murphy A (2014) Plant Physiology and Development, Sixth Edition, Sinauer Associates.			
<b>Weekly Contact Hours:</b> 4	<b>Lectures:</b> 30	<b>Practical work:</b> 30	
<b>Teaching Methods:</b> Lectures, Practical classes, Consultations, study, research work			
<b>Knowledge Assessment (maximum of 100 points):</b>			
<b>Pre-exam obligations</b>	points	<b>Final exam</b>	points

Active class participation	10	written exam	
Practical work	10	oral exam	70
Preliminary exam(s)	10	.....	
Seminar(s)			
The methods of knowledge assessment may differ; the table presents only some of the options: written exam, oral exam, project presentation, seminars, etc.			