

Course Unit Descriptor

Study Programme: Soil, plant and genetics			
Course Unit Title: Genetic bases of stress adaptation			
Course Unit Code: 19MZBGO01I009			
Name of Lecturer(s): dr Sofija R. Petrović, dr Borislav M. Banjac			
Type and Level of Studies: Master academic studies, second degree academic studies			
Course Status (compulsory/elective): elective			
Semester (winter/summer): winter			
Language of instruction: Serbian			
Mode of course unit delivery (face-to-face/distance learning): face-to-face			
Number of ECTS Allocated: 5			
Prerequisites: none			
Course Aims: Aim of this course is to introduce students to genetic mechanisms of plant adaptation to specific environmental conditions.			
Learning Outcomes: : Student who has finished genetic bases of stress adaptation master course will be enabled to further upgrade his knowledge through PhD studies in direction of creating new genotypes for specific environmental conditions.			
<p>Syllabus:</p> <p><i>Theory</i> 1.) Introduction lecture; 2.) Genes (structure and function); 3.) Types of gene action; 4.) Plant adaptations through evolution; 5.) Genotype behaviour in global climate change conditions; 6.) Stress-concept and types; 7.) Genetic principles of tolerance against different types of biotic stress; 8.) Genetic principles of tolerance against different types of abiotic stress 9.) Sources of genetic variability for growing plants in stressful environmental conditions; 10.) Reveal presentation.</p> <p><i>Practice</i> Exercises, other forms of classes, academic experimental work. Practice exercise takes place during exercise programme and follows lecture chapters.</p>			
<p>Required Reading:</p> <p>Borojević, S., Borojević, Katarina.: Genetika. Univerzitet u Novom Sadu, Novi Sad, 1976</p> <p>Old, R.W., Primrose, B.S.: Principles of Gene Manipulation – An Introduction to Genetic Engineering, Blackwell Scientific Publications, 1985</p> <p>Ashwani, P., Sopory, S.K., Bohnert, H. J., Govindjee: Abiotic Stress Adaptation in Plants-Physiological, Molecular and GenomicFoundation. Springer, 2010</p>			
Weekly Contact Hours:	Lectures: 45	Practical work: 30	
Teaching Methods: Teaching is conducted with use of modern technology, theoretical part of lectures is taking place in faculty classrooms. All lectures are computer processed and presented. Practical part of lectures is taking place in cabinets equipped with climate control units, with individual seats for students (40 seats), classrooms are equipped with PC, projector, overhead projector and microscopes.			
Knowledge Assessment (maximum of 100 points):			
Pre-exam obligations	points	Final exam	points
Active class participation	5	written exam	30

Practical work	2.5	oral exam	30
Preliminary exam(s)	3x10	
Seminar(s)	2.5		
The methods of knowledge assessment may differ; the table presents only some of the options: written exam, oral exam, project presentation, seminars, etc.			