

Study Programme: Agronomy			
Course Unit Title: Microbiology of rhizosphere			
Course Unit Code: 3DAI2052			
Name of Lecturer(s): Associate Professor Simonida Djuric, Assistant Professor Timea Hajnal – Jafari, Assistant Professor Dragana Stamenov			
Type and Level of Studies: Doctoral studies program - PhD			
Course Status (compulsory/elective): Elective			
Semester (winter/summer): Summer			
Language of instruction: English			
Mode of course unit delivery (face-to-face/distance learning): face-to-face			
Number of ECTS Allocated: 10			
Prerequisites: Master – Faculty of Agriculture; Master – Faculty of Life Science (biology, molecular biology, biology-chemistry), Master -FTS (environmental protection)			
Course Aims: Introduction of students with conditions prevailing in rhizosphere, with root exudates influence on microbial activity and influence of rhizosphere microbiota on plant.			
Learning Outcomes: Information obtained by studying rhizosphere provide opportunities of application of stimulative microorganisms for certain plant, as well as antagonistic microorganisms.			
Syllabus: <i>Theory</i> Rhizosphere. Rhizosphere specificity of different plants. Plant exudates. Microbial exudates. Dominant systematic group of microorganisms in rhizosphere. Rhizosphere microorganisms as plant growth promotors. Elements cycle in rhizosphere. Mycorriza, Actynorriza, simbiotic N-fixation. Relations between microorganisms. Antagonistic microorganisms. Antagonistic relations between microorganisms and plants in rhizosphere. Applicaton of rhizosphere microorganisms in plan production <i>Practice</i> Isolation and determination of precise PGP microorganisms from soil. Treatment with isolates in laboratory condition.			
Required Reading: Mukerji, K.G. , Manoharachary, C., Singh J.: Microbial Activity in the Rhizosphere.Springer-Verlag Berlin Heidelberg, 2006. Prescott, L. M.: Microbiology, 5th edition, McGraw Hill, NY, 2002.			
Weekly Contact Hours: 3	Lectures: 2	Practical work: 1	
Teaching Methods: Theoretical and practical instruction is given to the aid of modern technology in the respective classrooms and laboratories.			
Knowledge Assessment (maximum of 100 points):			
Pre-exam obligations	points	Final exam	points
Active class participation		written exam	
Practical work	30	oral exam	70
Preliminary exam(s)		
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.			