

Study program: Ecological agriculture			
Type and level of study: Master academic studies			
Course Title: Special plant protection in Ecological Agriculture			
Professors: Dr. Slobodan N. Milenković, Full Professor and dr. Olivera P. Nikolić, Associate Professor			
Status: Optional 4, semester II			
ECTS: 6			
Prerequisite: None			
The goal of the course Provide students with the knowledge of biological plant protection measures and the use of bio agents for combating phytopathogenic microorganisms, insects and weeds in order to protect the environment.			
The outcome of the course The acquired knowledge is the basis for the application of biological measures in the protection of cultivated plants from harmful microorganisms, insects and weeds in order to reduce waste and pollution of the environment, which encourages agro-environment agriculture.			
Syllabus <i>Theoretical study</i> - Biological control, definition, history and development. Mechanisms of biological control. Biological products in agriculture. Micro parasites, microorganisms, antagonists, antibiotics, bacteriophages, isolation, obtaining pure cultures. Results of application. Bioinsecticides. Predators and parasites, relationship to their host, the most important species. Results of application. Microbial components as potential herbicides. Biology and environmental conditions for the occurrence of the most important plant pathogenic microorganisms (fungi, bacteria, viruses, mycoplasmas), insects and weeds. Short-term and long-term prognosis phenomenon. Signalling. Preventive direct actions in the protection of cultivated plants. Software programs forecasts in crop protection. <i>Practical lessons</i> - Isolation and Identification of <i>Bacillus subtilis</i> and <i>Bacillus thuringiensis</i> . Antagonism. Results of biological agents. Bioinsecticides. Determination of predators of the order <i>Coleoptera</i> , <i>Diptera</i> , <i>Neuroptera</i> . Determination of parasites from the order <i>Hymenoptera</i> and <i>Diptera</i> . Results of application.			
Literature 1. Campbell, R. 1989. Biological control of microbial plant pathogens. Cambridge University Press. 2. Campbell, R. (1989): Biological control of microbial plant pathogens. Cambridge University Press. 3. Copping, L.G.: The Manual of Biocontrol Agents, BCPC, UK, 2009. 4. Roy van Driesche, et al.(2008) Control of Pests and Weeds by Natural Enemies: An Introduction to Biological Control. Wiley-Blackwell;			
Number of lectures: 4			Other Classes
Lectures: 2	Practices: 2	Other forms of teaching:	
Teaching methods: Oral presentation, presentations, demonstrative-illustrative method, laboratory exercises, seminars			
Score (maximum 100 points)			
Pre-exam commitments	Points	Final exam	Points
Activity during lectures	10	Written exam	25
Practical classes	10	Oral examination	25
Preliminary exam	20		
Seminars	10		
<i>Total</i>	50		50