

Study Programme: – Phytomedicine , modul Protection of agricultural products, humans and animals		
Course Unit Title: Urban ecology and principles of One Health		
Course Unit Code: 19.FT2006		
Name of Lecturer(s): Aleksandra Ignjatović Čupina, Aleksandar Jurišić, Mihaela Kavran		
Type and Level of Studies: Undergraduate academic studies, first level		
Course Status (compulsory/elective): Compulsory		
Semester (winter/summer): winter		
Language of instruction: Serbian, optionally English		
Mode of course unit delivery (face-to-face/distance learning): Face-to-face		
Number of ECTS Allocated: 3		
Prerequisites: Outlines of Entomology, Insect Systematics and Medical Entomology		
Course Aims: Defining the environmental relations of urban areas and the development and planning of the ecological conditions of cities. Ecological aspects in forecasts of pest species outbreaks in urban and rural important for environmental, human and animal health.		
Learning Outcomes: The understanding of importance, complexity, maintenance and spread of the pest species in urban areas, as well as their effects on the human population.		
Syllabus: <i>Theory</i> Definition of the urban ecology, processes in the ecosystems of urban areas, circulation of matter and flow of energy in urban areas in relation to natural ecosystems, endangerment and degradation of the urban environment, and possibilities of existence. Pest insects in urban areas and their importance for the human population. Segments of health approach concept: multidisciplinary (public health, veterinary medicine, ecology, entomology and acarology). Examples of good practice in Europe and Serbia: West Nile virus surveillance, surveillance of invasive vector species. Early detection and warning systems. Climate changes and human behavior changes that favor the appearance of urban insect pests, ticks, birds and rodents. Principles of integrated surveillance and control of ticks, birds and rodents, the most frequent diseases that occur in contact with humans and ticks, birds and rodents <i>Practice</i> The emergence and development of the urban environment, models of city development, ways of pollution and destruction of urban ecosystems, detection and monitoring of pest insect species in urban environments, identification of invasive species, vector species and vector-borne pathogens and parasites, possibilities and ways of warning the city population about the importance of the certain species appearance. Methods for estimating the number of ticks, birds and rodents		
Required Reading: 1. Pešić, S. (2011): Osnovi ekologije. Prirodno-matematički fakultet Kragujevac, 303 str. 2. Bonnefoy X., Kampen H., Sweeney K. (2008): Public Health Significance of Urban Pests. World Health Organization 3. Bowman A.S., Nuttall P. (2008): Ticks: Biology, Disease and Control. Cambridge University Press 4. Southwood T.R.E. (1978): Ecological Methods With particular reference to the study of Insect Populations. Chapman & Hall, London, Second edition. 524 p 5. Smith M. T. & Smith R. L. (2005): Elements of Ecology. Benjamin Cummings, 6th edition. 744pp		
Weekly Contact Hours: 4	Lectures: 2	Practical work: 2
Teaching Methods: Teaching is conducted with the use of modern technology. Visual didactic tools with the use of modern learning methods and interactive teaching.		

Knowledge Assessment (maximum of 100 points):			
Pre-exam obligations	points	Final exam	points
Active class participation	15	written exam	30
Practical work		oral exam	40
Preliminary exam(s)	15	
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.			