

Study Programme: PHYTOMEDICINE		
Course Unit Title: INVASIVE ORGANISMS		
Course Unit Code: 19.FT2005		
Name of Lecturer(s): Asst. Prof. Nataša Samardžić, PhD; Assoc. Prof. Aleksandra Petrović, PhD		
Type and Level of Studies: Undergraduate academic studies		
Course Status (compulsory/elective): compulsory		
Semester (winter/summer): winter		
Language of instruction: English		
Mode of course unit delivery (face-to-face/distance learning): face-to-face		
Number of ECTS Allocated: 3		
Prerequisites: none		
Course Aims: Education and training of students for independent recognition and determination of the most important invasive species for agriculture, veterinary and medicine. Training students to establish a monitoring system and apply appropriate control measures in accordance with good agricultural practice, veterinary and medical ethics.		
Learning Outcomes: Students who have theoretical and practical knowledge in the recognition and identification of invasive organisms, their biology, ecology, geographical distribution and invasiveness, vector potential, damage thresholds, impact on non-native species and ecosystems.		
Syllabus: <i>Theory</i> Definition of invasive organisms. The process of invasion. Species adaptability and predisposition to invasiveness. Ways, types and models of species introduction. Globalization, transport and tourism as causes of introduction of invasive species. Ecological and economic impact of invasive species from agricultural, veterinary and medical aspects. Monitoring of invasive species and establishment of surveillance and control systems. Endangerment of allochthonous species. Impact of invasive species on ecosystems. Characteristics of invasive weeds and certain animal groups. The most important invasive species of weeds and certain animal groups in Serbia, the region and the world. Invasive species of protected areas. Invasive weeds of ruderal habitats. Invasive weeds on canals. Allergenic pollen in the air as a natural pollutant and its measurement. Morphological characteristics of pollen of the most important invasive weeds. Influence of agrotechnical measures on the occurrence and spread of invasive weeds. Rules and regulations in the Republic of Serbia. Use and application of databases GISD, GRIIS, DAISIE. <i>Practice</i> Determination and mapping of weed species. Phytocenological images. Seeds of invasive weed species. Seedlings of the most economically important invasive weed species. Invasive weed species of the families: Amarantaceae, Asteraceae, Asclepiadaceae, Chenopodiaceae, Brassicaceae, Convolvulaceae, Euphorbiaceae, Solanaceae, Polygonaceae, Ranunculaceae, Malvaceae and others. Determination and mapping of invasive animal species: Nematode, Annelida, Mollusca, Crustacea, Aranea, Acari, Pisces, Amphibia, Reptilia, Aves, Mammalia.		
Required Reading: Konstantinović, B. (2008): Korovi i njihovo suzbijanje. Poljoprivredni fakultet, Univerzitet u Novom Sadu. Konstantinović, B. (2011): Osnovi herbologije i herbicidi. Poljoprivredni fakultet, Univerzitet u Novom Sadu. Konstantinović, B., Konstantinović, Bo. (2014): Osnovi herbologije i korovi urbanih sredina. Poljoprivredni fakultet, Univerzitet u Novom Sadu. Ruiz G.M., Carlton J.T. (2003): Invasive species: vectors and management strategies. Island Press. Sarat E., Mazaubert E., Dutartre A., Poulet N., Soubeyran Y. (2015): Invasive alien species in aquatic environments. Practical information and management insights. Volume 1. Practical information. Onema. Knowledge for action series.		
Weekly Contact Hours:	Lectures: 45	Practical work: 15
Teaching Methods: Lectures: presentations and consultations; Practical classes: independent laboratory exercises with microscopic and macroscopic samples, calculations		
Knowledge Assessment (maximum of 100 points):		

Pre-exam obligations	points	Final exam	points
Active class participation		written exam	20
Practical work		oral exam	60
Test(s)	20	
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.