

Study Programme: Phytomedicine , modul Plant protection			
Course Unit Title: Ecotoxicology and Environmental Protection			
Course Unit Code: 19FT1010			
Name of Lecturer(s): Sanja D. Lazic, Ivana V. Maksimović, Dragana B. Šunjka, Marina I. Putnik- Delić			
Type and Level of Studies: Bachelor studies			
Course Status (compulsory/elective): Compulsory			
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: 4			
Prerequisites: None			
Course Aims: The knowledge about the pollution sources and types of pollutants in ecosystems and the measures to be taken in the process of agriculture production in order to prevent pollution of ecosystems.			
Learning Outcomes: The acquired-applicable knowledge in the field of ecotoxicology and environmental protection.			
Syllabus: <i>Theory</i> Definition of ecotoxicology, circulation of matter and energy in nature, toxicity, toxicity testing, mutagens, cancerogenic, teratogenic, reproduction effects. Human expose to the toxic compounds and risk assessment. Pesticides – organochlorine insecticides, polychlorinated biphenyls, dioxins, polycyclic aromatic hydrocarbons. Concept, causes, types, level of pollution. Goals and assignments of agro-ecosystem protection. Basic characteristics and peculiarities of agro-ecosystem. Pollution and protection of air, water and soil– sources and classifications of pollutant, effects of pollution, possibilities of reducing negative effects in plant production. <i>Practice</i> Determination of organochlorine insecticides, polychlorinated biphenyls and polycyclic aromatic hydrocarbons content in the environment. Determination of toxicity according the OECD methods. Determination of EC ₅₀ . The determination of SO ₂ , CO ₂ , NH ₃ excess in air. Determination of inorganic and organic chemical pollution in water. Determination of heavy metals content in water, soil and plants and rebuilding polluted soil. Determination of nitrate content in plant material.			
Required Reading: Kastori R., Zaštita agroekosistema. Feljton, Novi Sad, 1995; Alloway, B., J. Heavy metals in soil. Blackie, Glasgow, 1990; Walker, C.H., Hopkin, S.P., Siblz, R.M., Peakall, D.B. Principles of Exotoxicology. Tajlor&Francis, New York, 2006;			
Weekly Contact Hours: 4	Lectures: 45	Practical work: 15	
Teaching Methods: Lectures and students group work			
Knowledge Assessment (maximum of 100 points):			
Pre-exam obligations	points	Final exam	points
Active class	5	written exam	85

participation			
Practical work		oral exam	
Preliminary exam(s)		
Seminar(s)	10		
<p>The methods of knowledge assessment may differ; the table presents only some of the options: written exam, oral exam, project presentation, seminars, etc.</p>			