

Course Unit Descriptor

Study Programme: AGRONOMY			
Course Unit Title: Chemical methods of pesticide residue analysis			
Course Unit Code: 19.AGR040			
Name of Lecturer(s): Sanja D. Lazic, Dragana B. Šunjka			
Type and Level of Studies: PhD studies			
Course Status (compulsory/elective): Elective			
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: 7			
Prerequisites: None			
Course Aims: The aim of the course is for students to acquire knowledge about methods of pesticide residue analysis in food of plant and animal origin, soil and water.			
Learning Outcomes: Acquired and applicable knowledge of pesticide residue analysis techniques in order to check the healthiness of food, soil and water contamination			
Syllabus: <i>Theory</i> Sampling, requirements, sampling equipment, preparation of samples of plant material, soil and water. Pesticide extraction techniques liquid-liquid extraction, SPE extraction, disk extraction, dispersive liquid-liquid microextraction, supercritical extraction, QuEChERS extraction, gas chromatography in pesticide residue analysis and specific detectors, liquid chromatography in pesticide residue analysis and specific detectors. Quantitative and qualitative determinations. EFSA, European and national regulations on pesticide residues in food and feed, water and soil. Monitoring programs of the European Union. Lists of priority pollutants in the field of water protection policy. Quality management in analytical laboratories. <i>Practice</i> Preparation of laboratory samples. Pesticide extraction techniques liquid-liquid extraction, SPE extraction, disk extraction. Dispersion liquid-liquid microextraction. Determination of pesticide residues in agricultural products by HPLC DAD, determination of pesticide content in water by liquid and gas chromatography.			
Required Reading: Šovljanski, R. Lazić S, Osnovi fitofarmacije, Univerzitet u Novom Sadu, Poljoprivredni fakultet, Novi Sad, 2007. MacBean, C. (Ed): The Pesticide Manual (16th ed). British Crop Protection Council, Farnham, 2012. Manojlovic, M., Bogdanović, D., Lazić, S., Nešić, Lj.: Plodnost i opterećenost zemljišta u pograničnom području. Poljoprivredni fakultet Novi Sad, 2014. Bogdanović, D., Lazić, S., Belić, M., Nešić, Lj., Čirić, V., Čabilovcki, R.: Uzorkovanje zemljišta i biljaka za agrohemijske i pedološke analize. Poljoprivredni fakultet Novi Sad, 2014.			
Weekly Contact Hours: 4	Lectures: 60	Practical work: 60	
Teaching Methods: Lectures and students group work			
Knowledge Assessment (maximum of 100 points):			
Pre-exam obligations	points	Final exam	points

Active class participation		written exam	
Practical work		oral exam	70
Preliminary exam(s)		
Seminar(s)	30		
The methods of knowledge assessment may differ; the table presents only some of the options: written exam, oral exam, project presentation, seminars, etc.			