

Study Programme: Phytomedicine , modul Plant protection			
Course Unit Title: Basic of Phytopharmacy			
Course Unit Code: 19.FTM020			
Name of Lecturer(s): Sanja D. Lazic, Dragana B. Šunjka			
Type and Level of Studies: Bachelor 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: 9			
Prerequisites: None			
Course Aims: Introduction to the means of plant protection products, forms of their formulations, physico-chemical properties, toxicity, behaviour in the environment, pesticide handling, insecticides, fungicides and herbicides.			
Learning Outcomes: The acquired-applicable knowledge of pesticide formulations, measures of precaution at handling and the application method which provides minimum residues in agricultural products.			
Syllabus: <i>Theory</i> History of pesticide use, classification, Low on PPPs, Low on biocidal products, methods of production, types of formulations, non-pesticide matters in compounds, physico-chemical properties. Pesticide behaviour in plants, water and soil, PHI, working PHI, MDK MRLs. Pesticide residues determination and legislation in Serbia and EU. Water legislations. Pesticide toxicology, toxicity tests, ADI ARfD, NOAL, LOAL, pesticide intake risk assessment. Insecticides, fumigants, fungicides, herbicides, obtaining, effect, decomposition and toxicity. Impurities by product of manufacture and industrial impurities. <i>Practice</i> Laboratory exercises: wet sieve test, deteminaton of tap density, compact volume. Determination of specific gravity, density and weight per millitre. Determination of absorptive capacity. Determination of water content, looseness and hygroscopicity. Determination of acidity and alkalinity. Determination of viscosity and surface tension. Determination of HLB, suspension and emulsion stability. Production of pesticide products. Testing of physico-chemical properties of produced preparations. Determination of the active ingredient content in produced preparations by thin-layer chromatography. Determination of active matter content by UV spectrophotometry. Determination of sulphur content.			
Required Reading: Šovljanski, R. Lazić S, Osnovi fitofarmacije, Univerzitet u Novom Sadu, Poljoprivredni fakultet, Novi Sad, 2007. Šovljanski, R., Klokočar Šmit Z., Lazić S, Praktikum iz opšte fitofarmacije, Univerzitet u Novom Sadu, Poljoprivredni fakultet, Novi Sad, 2002. Vitorović S., Milošević M. Osnovi toksikologije sa elementima ekotoksikologije, Poljoprivredni fakultet Beograd, 2002.			
Weekly Contact Hours: 3	Lectures:45	Practical work: 30	
Teaching Methods: Lectures and students group work			
Knowledge Assessment (maximum of 100 points):			
Pre-exam obligations	points	Final exam	points

Active class participation	10	written exam	50
Practical work		oral exam	30
Preliminary exam(s)		
Seminar(s)	10		
The methods of knowledge assessment may differ; the table presents only some of the options: written exam, oral exam, project presentation, seminars, etc.			