

<b>Study Programme:</b> Agronomy		
<b>Course Unit Title:</b> Instrumental analysis		
<b>Course Unit Code:</b> 3DAI1032		
<b>Name of Lecturer(s):</b> Prof. Boris Popović, Ass. Prof. Ružica Ždero Pavlović, Assistant MSc Bojana Blagojević		
<b>Type and Level of Studies:</b> Doctoral Academic Degree		
<b>Course Status (compulsory/elective):</b> Elective		
<b>Semester (winter/summer):</b> Winter		
<b>Language of instruction:</b> English		
<b>Mode of course unit delivery (face-to-face/distance learning):</b> Face-to-face		
<b>Number of ECTS Allocated:</b> 10		
<b>Prerequisites:</b> chemistry and biochemistry		
<b>Course Aims:</b> The aim of the course is the acquisition of scientific skills and academic skills, develop creative skills and specific practical skills needed for the future development of the careers that are compatible with the modern developments of the discipline in the world today.		
<b>Learning Outcomes:</b> Developing the ability of students to follow modern achievements in science and profession, developing the ability to solve problems using scientific methods and procedures in the process of plant growing and the production of healthy food as well as developing critical and creative thinking.		
<b>Syllabus:</b> <i>Theory</i> Introduction. Errors in chemical analysis, and statistical analysis. Introduction to instrumental analysis. Electroanalytical methods of analysis. Spectroscopic methods of analysis. Spectrophotometry and fluorimetry. Atomic absorption spectroscopy. Chromatographic methods. High performance liquid chromatography (HPLC). Gas chromatography (GC). Selection the method for analysis. Sampling and sample preparation for analysis. Removing interference. Selected methods of analysis.  <i>Practice</i> Sampling and sample preparation for analysis. Application of potentiometric and conductometric determinations. Spectrophotometric and fluorimetric analysis. Atomic absorption spectroscopy. Application of high performance liquid chromatography-HPLC and gas chromatography (GC) for the analysis of selected compounds.		
<b>Required Reading:</b> 1. S. Nielsen. Chemical analysis of Food, Techniques and Applications, Elsevier Science, 2012. 2. D. Skoog, D. West, F. Holler, Bases of analytical chemistry, Школска књига, Загреб, 1999.		
<b>Weekly Contact Hours:</b>	<b>Lectures:</b> 4	<b>Practical work:</b> 0
<b>Teaching Methods:</b> Depending on the number of applicants, lectures and practical classes will be held or consultations and seminar		
<b>Knowledge Assessment (maximum of 100 points):</b>		

<b>Pre-exam obligations</b>	points	<b>Final exam</b>	points
Test	30	Oral exam	30
Seminar	40		
<p>The method of oral presentation and discussion. Method of presentations, demonstrations, simulations and illustrations on the board and the application of computers. Methods of practical laboratory work. Lectures, consultations, laboratory sessions, seminars.</p>			