

Course Unit Descriptor

<b>Study Programme:</b> Soil, plant and genetics. Module: Soil and Plant Nutrition			
<b>Course Unit Title:</b> Soil fertility and fertilization in intensive crop production			
<b>Course Unit Code:</b> 19.ZB1014			
<b>Name of Lecturer(s):</b> Prof. Dr. Maja, S Manojlović			
<b>Type and Level of Studies:</b> Master academic studies			
<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> 5			
<b>Prerequisites:</b>			
<b>Course Aims:</b> Acquiring advanced knowledge of the systems of fertilization in the intensive crop production.			
<b>Learning Outcomes:</b> Students are trained to apply their knowledge in agricultural practices, and in the extension service for the production of food, seeds and planting materials, and in their research work.			
<b>Syllabus:</b> <i>Theory</i> Soil, the environment where agricultural production takes place. Soil fertility, a prerequisite for intensive plant production. Soil fertility control system. The need for fertilization based on the Soil Fertility Control System. Principles of fertilizer application in intensive plant production. Application of fertilizers in agricultural production. Application of fertilizers in fruit and viticulture production. Fertilizer application in vegetable production (in an open fields, protected area). Application of fertilizers in flower production. Fertilization of green areas. <i>Practice</i> <ul style="list-style-type: none"> <li>• Taking georeferenced soil samples in order to control soil fertility and create a soil information system.</li> <li>• Development of a fertilization plan (amount of fertilizer, form and ratio of elements, time of application and method of application) within the soil information system</li> <li>• Calculating the amount of fertilizer in fertigation in intensive plant production (in furrows, sprinkling, artificial rain, drop by drop).</li> <li>• Development of a fertilization plan for certain plant species.</li> </ul>			
<b>Required Reading:</b> <ol style="list-style-type: none"> <li>1. Soil fertility and fertilizers, Havlin J.L. et al., Pearson education, Inc. Upper Saddle River, New Jersey, 2005.</li> <li>2. Magdoff, F., &amp; Van Es, H. (2000). Building soils for better crops (No. 631.584/M188b). Beltsville: Sustainable Agriculture Network.</li> <li>3. Singh BR, McLaughlin, MJ, Brevik E (eds) (2017) The Nexus of Soils, Plants, Animals and Human Health- Catena- Schweizerbart, Stuttgart, 87-98</li> </ol>			
<b>Weekly Contact Hours:</b>	<b>Lectures:</b> 3	<b>Practical work:</b> 2	
<b>Teaching Methods:</b> Classes are conducted with the use of modern technology (computer, video beam). Laboratory studies.			
<b>Knowledge Assessment (maximum of 100 points):</b>			
<b>Pre-exam obligations</b>	points	<b>Final exam</b>	points
Active class		written exam	

participation			
Practical work -field -laboratory	10+10	oral exam	50
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.