

## Course Unit Descriptor

<b>Study Programme: Agronomy with modules</b>			
<b>Course Unit Title:</b> Physical and Chemical Properties of soil			
<b>Course Unit Code:</b> 3DAI1020			
<b>Name of Lecturer(s):</b> assistant professor Vladimir Ćirić			
<b>Type and Level of Studies:</b> Doctoral 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> 10			
<b>Prerequisites:</b> Completed master study			
<b>Course Aims:</b> The objective of the course is to learn about the physical and chemical properties of the soil, the factors that endanger the natural fertility of arable soil and the measures for their improvement by certain tanks and technological procedures			
<b>Learning Outcomes:</b> Knowledge in this field provides expertise in solving problems related to soil improvement measures in agronomic practice, as well as dealing with scientific work in the field of soil science. Expertise in analysis of soil samples and interpretation of analytical results and their presentation through oral presentation and written report.			
<b>Syllabus:</b> Theory: Soil physics and soil chemistry. Factors that endanger the natural fertility of agricultural - arable soil. Soil texture as an indicator of productivity of the soil. Soil structure - ways and means of repair and maintenance. Soil melioration practice. Agromelioration of anormal soil. Meliorative mechanical soil treatment. Melioration of acid and alkaline soils. Meliorative application of mineral and organic fertilizers. Pedological research as a basis for drainage and irrigation projects. Stationary monitoring of soil properties after the application of meliorative measures. Classification of hydromorphic, halomorphic, subhydic and other soils. Soil fertility, Spatial variability and soil zoning, Application of information technologies in pedology. Practice: Study Research: Soil Survey. Determination of water-physical and chemical properties of soil, active and potential acidity and quantity of lime for the repair of acid soils. Determination of soil salinity, qualitative and quantitative composition of cations and anions, and the required amount of gypsum for repairing alkaline soils.			
<b>Required Reading:</b> 1. R. White : Principles and Practice of Soil Science, Fourth Edition, Blackwell Publishing, 2006. 2. Đ. Bošnjak: Metode istraživanja i određivanja fizičkih svojstava zemljišta, JDPZ, Novi Sad, 1997 3. Hillel, D. (2004): Introduction to environmental soil physics. Elsevier Academic Press. Amsterdam 4. N. Miljković, Meliorativna Pedologija Poljoprivredni fakultet, Novi Sad, 2005. 5. Milivoj Belić, Ljiljana Nešić, Vladimir Ćirić: Praktikum iz pedologije, Poljoprivredni fakultet Novi Sad, 2014.			
<b>Weekly Contact Hours:</b>	<b>Lectures: 45</b>		<b>Practical work: /</b>
<b>Teaching Methods:</b> Teaching lectures through video lectures			
<b>Knowledge Assessment (maximum of 100 points):</b>			
<b>Pre-exam obligations</b>	points	<b>Final exam</b>	points
Active class participation	10	written exam	40
Practical work	10	oral exam	20
Preliminary exam(s)	/	.....	
Seminar(s)	20		
The methods of knowledge assessment may differ; the table presents only some of the options: written exam, oral exam, project presentation, seminars, etc.			