

Course Unit Descriptor

Study Programme: Soil and plant			
Course Unit Title: Agrogeology			
Course Unit Code: 3MZIII12			
Name of Lecturer(s): assistant professor Vladimir Ćirić,			
Type and Level of Studies: Master Academic Degree			
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: 6			
Prerequisites:			
Course Aims: The acquisition of knowledge of minerals and rocks as a basis for the soil formation.			
Learning Outcomes: The education and training of students for professional and scientific work in the field of soil science and plant nutrition.			
Syllabus: Theory: INTRODUCTORY LECTURE: Minerals and rocks as a basis for soil formation EARTH: Hypotheses of the Earth's rising; The internal composition of the Earth and the division into geospheres. Elemental composition of Earth's crust, physical properties of the Earth. MINERALS: The origin of minerals and their physical and chemical properties. Main groups of minerals: primary minerals, minerals as constituents of the rocks, secondary minerals, minerals of special importance for the soil, rocks and minerals for the increasing soil fertility. PETROGRAPHY: Types of rocks, their composition and division. Magmatic, sedimentary and metamorphic rocks. Disintegration of rocks and minerals and their importance for soil education. ENDODINAMICS: Magmatic movements, tectonic movements, seismism, metamorphism, more important hypotheses about movements in the lithosphere. EZODINAMICS: seawater, lake water, river water, wind and glaciers in the creation of relief. Erosion and the role of gravity in the creation of relief. HISTORICAL GEOLOGY: Geological chronology, methods for determining the age of the rocks. BASICS OF HYDROGEOLOGY. Practice: Physical properties of minerals - determination of mineral density. Introduction to other physical properties of minerals (hardness, fissure, glossiness, scratching, fracture, magnetism, electroconductivity, etc.). Primary minerals. Quartz, feldspars, mica, chlorite, pyroxene and amphibole and olivine properties. Introduction to the properties of oxides, hydroxides, sulphates, sulfides, carbonates, chlorides and phosphates. Magmatic rocks (work with collection-minerals and rocks). Sedimentary rocks (work with the collection). Metamorphic rocks (work with the collection). Field exercise: introduction to the geomorphological units in Vojvodina and the geology of Fruška Gora.			
Required Reading: 1. Kukin A., Hadžić V., Nešić LJ., Belić M.: Agrogeologija, Poljoprivredni fakultet, Novi Sad, 2007. 2. Kostić N.: Agrogeologija. Izdavačka kuća «Draganić» Beograd, 2000. 3. Okiljević V., Marković M.: Pedologija, knjiga II, Agrogeologija- Silvogeologija, Univerzitetski udžbenik, Banja Luka, 2005. 4. Chesworth W. (2011) Agrogeology. In: Gliński J., Horabik J., Lipiec J. (eds) Encyclopedia of Agrophysics. Encyclopedia of Earth Sciences Series. Springer, Dordrecht			
Weekly Contact Hours:	Lectures: 30		Practical work: 30
Teaching Methods: Theoretical and practical teaching (getting to know minerals and walls in the laboratory and on the field).			
Knowledge Assessment (maximum of 100 points):			
Pre-exam obligations	points	Final exam	points
Active class participation	5	written exam	30
Practical work	5	oral exam	30
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.			