



UNIVERSITY OF SARAJEVO – FACULTY OF SCIENCES
DESCRIPTION OF TEACHING COURSE

Form SP2

Page 1 of 3

Code: GE-355-4	Teaching course: METHODS OF SOIL QUALITY ANALYSIS		
Study cycle: FIRST	Study year: TRIRD	Semester: VI/SUMMER	Number of ECTS credits: 6
Status: Mandatory		Total number of hours: 60 Lectures 30 Practical courses 30	
Participants in classes:	Lecturers and assistants selected for the field to which the course belongs		
Prerequisite for course enrollment:	-		
Course objectives:	The main goal of the course is to train students to independently sample and analyze some of the most common parameters - indicators of soil quality. Initially, through topics from general pedology, the goal is for students to understand the roles of soil and the basic facts about the evolution, appearance and classification of soil, in order to ultimately be trained for independent and team research and the preparation of reports on soil quality.		
Course topics:	1. Definition of soil, roles of soil and importance of soil. 2. Genesis and evolution of soil. 3. Soil morphology. 4. Soil classification. 5. Soil and land productivity. Soil degradation and its protection. 6. Soil sampling plan and types of samples. 7. Field soil sampling, transport and storage of soil samples. 8. Test. 9. Field determination of soil color, texture and structure. 10. Field measurements of water infiltration into the soil, measurement of soil water permeability, measurement of soil moisture and measurement of soil compaction. 11. Preparation of soil samples for physical and chemical analyzes in the laboratory. 12. Analysis of the physical characteristics of the soil (granulometric composition, humidity, density of the solid phase of the soil, determination of soil density) 13. Analysis of the physical characteristics of the soil (porosity, water-retention specificities, water permeability, plasticity)		



UNIVERSITY OF SARAJEVO – FACULTY OF SCIENCES
DESCRIPTION OF TEACHING COURSE

Form SP2

Page 2 of 3

	14. Analysis of the chemical characteristics of the soil (soil reactions, carbonate content in the soil, humus acidity, nitrate content, etc.). 15. Interpretation of the results of soil research and preparation of reports.			
Learning outcomes:	Knowledge: • the student understands the importance and roles of soil, • the student can explain the origin, development and morphological features of some soils, • the student can explain soil classification, • the student knows the methodology of soil research and can independently determine the value of parameters for soil quality assessment. Skills: • The student knows how to independently create a plan and method of sampling and prepare soil samples for physico-chemical analysis. Competencies: • the student is trained to create a sampling plan and self-sampling, as well as independent and team work on laboratory testing of individual soil parameters and to create reports on soil testing.			
Teaching methods:	Lectures are held in the classroom, and practical courses are held in the laboratory and in the field. Lectures and exercises are interactive with the use of multimedia content, laboratory and field equipment for soil research.			
Knowledge testing methods with a grade structure¹:	Knowledge test – criterion: Attendance at lectures and exercises: max. 10 – condition 6 points Activity in class: max. 10 – condition 5 points Partial test during the semester: max. 40 – condition 22 points Final exam at the end of semester: max. 40 – condition 22 points Total 100 points, condition 55 points Gradeing: <table><tr><td>Evaluation</td><td>ECTS evaluation</td><td>Number of points</td></tr></table>	Evaluation	ECTS evaluation	Number of points
Evaluation	ECTS evaluation	Number of points		

¹ The structure of points and point criteria for each subject is determined by the council of the organizational unit before the beginning of the academic year in which the subject is taught in accordance with Article 64, Paragraph 6 of the Law on Higher Education of the Canton of Sarajevo.



UNIVERSITY OF SARAJEVO – FACULTY OF SCIENCES
DESCRIPTION OF TEACHING COURSE

Form SP2

Page 3 of 3

	10	(A) excellent	95 - 100
	9	(B) very good	85 - 94
	8	(C) good	75 - 84
	7	(D) satisfactory	65 - 74
	6	(E) sufficient	55 - 64
	5	(F, FX) fail	< 55
Literature²:	Mandatory: • Čengić, I. (2013): Osnovi nauke o tlu: praktikum, Šumarski fakultet, Sarajevo. • Resulović, H., Čustović, H. (2002): Pedologija, knjiga 1 – Opći dio, Poljoprivredni fakultet, Sarajevo. Recommended: • Pernar, N., Bakšić, D., Perković, I. (2013): Terenska i laboratorijska istraživanja tla: priručnik za uzorkovanje i analizu, Udžbenici Sveučilišta u Zagrebu, Šumarski fakultet u Zagrebu i Hrvatske šume, Zagreb. • Pernar, N. (2017): Tlo – nastanak, značajke, gospodarenje, Udžbenici Sveučilišta u Zagrebu, Sveučilište u Zagrebu i Šumarski fakultet, Zagreb. • Resulović, H., Čustović, H., Čengić, I. (2008): Sistematika tla/zemljišta: nastanak, svojstva i plodnost, Poljoprivredno-prehrambeni fakultet, Sarajevo.		

² The senate of the higher education institution as an institution, i.e. the council of the organizational unit of the higher education institution as a public institution, determines the mandatory and recommended textbooks and manuals, as well as other recommended literature on the basis of which the exam is prepared and taken, by a special decision that it must publish on its website before the beginning of the academic year in accordance with Article 56, paragraph 3 of the Law on Higher Education of the Canton of Sarajevo.