

SOIL GENESIS AND CLASSIFICATION

1	Course Title:	SOIL GENESIS AND CLASSIFICATION
2	Course Code:	TPR4901-Z
3	Type of Course:	Compulsory
4	Level of Course:	First Cycle
5	Year of Study:	4
6	Semester:	7
7	ECTS Credits Allocated:	4.00
8	Theoretical (hour/week):	2.00
9	Practice (hour/week):	2.00
10	Laboratory (hour/week):	0
11	Prerequisites:	none
12	Language:	Turkish
13	Mode of Delivery:	Face to face
14	Course Coordinator:	Doç.Dr. ERTUĞRUL AKSOY
15	Course Lecturers:	yok
16	Contact information of the Course Coordinator:	Uludağ Üniversitesi, Ziraat Fakültesi, Toprak Bilimi ve Bitki Besleme Bölümü 16059 Görükle Kampüsü, Nilüfer/Bursa Tel: 0-224-2941534 E-posta: aksoy@uludag.edu.tr
17	Website:	
18	Objective of the Course:	To gain knowledge and skills on: Soil formation and soil forming factors; Soil characteristics and identification; description of physical, chemical and morphological properties of soils in the field; writing profile description cards; basic principles of the soil classification systems; classification systems and soil classification.
19	Contribution of the Course to Professional Development:	
20	Learning Outcomes:	
	1	To implement the description of soil profile and horizons in the field.
	2	To interpret the weathering in soil formation, soil formation and soil forming factors, the effects of soil forming factors on soil characteristics and their distribution.
	3	To comprehend the basic principles of soil classification.
	4	To comprehend the Soil Taxonomy and WRB (FAO/Unesco) soil classification systems widely used in Turkey.
	5	To comprehend the classification of soils according to Soil Taxonomy and WRB (FAO/Unesco) soil classification systems using field and laboratory data
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21	Course Content:	

	Course Content:	
Week	Theoretical	Practice
1	-Introduction -Definition of soil and basic principles on soil concept -Soil morphology	-Introducing the Soil Survey and Mapping Laboratory. -provide information on field works planning through the semester. -give information about the equipments used at field work.
2	-Characterization of the composition of soil -weathering on soil formation	-physical, geo-chemical, biological and pedo-chemical weathering and decomposition products (visual presentation).
3	-Soil forming factors	-effects of parent material and topography to soil formation (visual presentation) -Effects of topography to soil erosion and soil formation (visual presentation).
4	-Effects of the climate to soil formation -Biological events in soil formation -Time factor in soil formation	-Field work 1, and subject of Homework-1; Describing the horizons, fill in the soil description cards, disturbed and undisturbed soil sampling from horizons.
5	-Pedogenic processes -Formation of Alluvial and organic soils	-Field work-2: Alluvial soils, on site observation.
6	Soil classification concept	Reporting the profile identification cards.
7	Soil classification concept, Midterm Exam	Explanation of results of Homework-1 and discussion on field work.
8	Basic Principles and structures of Soil Taxonomy, Categorical level, Diagnostic horizons, Orders and suborders.	- Field work-3 (and subject of Homework-2) Students are divided into groups to describe and sample soil profile and horizons themselves. Description of soil profiles made according to Soil Taxonomy.
9	-Entisols -Vertisols -Inceptisols	-Properties of soils classified as Entisol, Vertisol and Inceptisol Orders (visual presentation) -Use of Keys to soil taxonomy guide.
10	-Aridisols -Mollisols -Andisols	Properties of soils classified as Aridisol, Mollisol and Andisol Orders (visual presentation) -Use of Keys to soil taxonomy guide.
11	-Alfisols -Spodosols -Ultisols	Properties of soils classified as Alfisol, Spodosol and Ultisol Orders (visual presentation) -Use of Keys to soil taxonomy guide.
12	-Oxisols -Histosols -Gelisol	Properties of soils classified as Oxisol, Histosol and Gelisol Orders (visual presentation) -Use of Keys to soil taxonomy guide.
13	The WRB (FAO/Unesco) Soil classification system	-Use of WRB(FAO/Unesco) soil classification system guide. - explanation of results of Homework-2 and discussion. - Made an overall assessment of the class in this semester. - Focuses on issues and problems according to the wishes of the students.
14	Final Exam Practice Exam	Evaluation of home-work reports and result of practice exam. Disclosure of possible errors.

22	Textbooks, References and/or Other Materials:	<p>Dinç, U., Kapur, S., Özbek, H., Şenol, S.1999. Toprak Genesisi ve Sınıflandırması, 3.baskı. Çukurova Üniversitesi Ziraat Fakültesi Ders Kitabı No:C-130, ÇÜZF, Adana.376s.</p> <p>Diressen, P.M., Dudal R., 1989. Lecture Notes on the Geography, Formation, Properties and use of the Major Soils of the World. Agricultural Univ. Wageningen.</p> <p>Fanning, D.S. and M.C.B. Fanning, 1989. Soil: Morphology, Genesis and Classification,. John Wiley and Sons, USA . 395p.</p> <p>Schoeneberger, P.J., D.A. Wysocki, E.C. Benham and W.D. Broderson, 2002. Field Book for Describing and Sampling Soils, Version 2.0, p: 189. National Soil Survey Center, Lincoln., NE.USDA-NRCS.</p> <p>Soil Survey Staff 1999. Soil Taxonomy: A Basic System of Soil Classification for Making and Interpreting Soil Surveys. 2nd edn. USDA-NRCS Agric. Handbook No. 436. US Government Printing Office, Washington, DC, USA, 871 p.</p> <p>Soil Survey Staff 2014. Keys to Soil Taxonomy. Twelfth ed. USDA-NRCS. US Government Printing Office, Washington DC, USA, 353 p.</p> <p>FAO/UNESCO, 1990. FAO-Unesco Soil Map of the World, Revised Legend, p: 119. World soil resources report No: 60, FAO, Rome, Italy</p> <p>FAO.,1990. Guidelines for Soil Profile Description, Rome, Italy</p> <p>Burt, R. (ed.) 2004. Soil Survey Laboratory Methods Manual. Soil Survey Investigations Report No. 42, version 4,0. USDA-NRCS, US Government Printing Office, Washington, DC, USA, 700 p.</p>	
23	Assesment		
TERM LEARNING ACTIVITIES		NUMBER	WEIGHT
Midterm Exam		1	30.00
Quiz		0	0.00
Home work-project		2	20.00
Final Exam		1	50.00
Total		4	100.00
Contribution of Term (Year) Learning Activities to Success Grade		50.00	
Contribution of Final Exam to Success Grade		50.00	
Total		100.00	
Measurement and Evaluation Techniques Used in the Course			
24	ECTS / WORK LOAD TABLE		

Activites	Number	Duration (hour)	Total Work Load (hour)
Theoretical	14	2.00	28.00
Practicals/Labs	14	2.00	28.00
Self study and preperation	14	2.00	28.00
Homeworks	2	15.00	30.00
Projects	0	0.00	0.00
Field Studies	4	8.00	32.00
Midterm exams	1	20.00	20.00
Others	0	0.00	0.00
Final Exams	1	20.00	20.00
Total Work Load			186.00
Total work load/ 30 hr			6.20
ECTS Credit of the Course			4.00

25	CONTRIBUTION OF LEARNING OUTCOMES TO PROGRAMME QUALIFICATIONS															
	PQ1	PQ2	PQ3	PQ4	PQ5	PQ6	PQ7	PQ8	PQ9	PQ10	PQ11	PQ12	PQ13	PQ14	PQ15	PQ16
ÖK1	5	4	0	5	4	4	0	0	0	4	5	0	0	0	0	0
ÖK2	5	4	0	5	0	0	0	0	0	4	5	0	0	0	0	0
ÖK3	5	4	0	5	0	0	4	4	3	5	5	3	0	0	0	0
ÖK4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ÖK5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LO: Learning Objectives PQ: Program Qualifications																
Contribution Level:	1 very low		2 low		3 Medium		4 High		5 Very High							