SOIL PHYSICS

1	Course Title:	SOIL PHYSICS	
2	Course Code:	TPR3907-Z	
3	Type of Course:	Compulsory	
4	Level of Course:	First Cycle	
5	Year of Study:	3	
6	Semester:	5	
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:	No	
12	Language:	Turkish	
13	Mode of Delivery:	Face to face	
14	Course Coordinator:	Doç.Dr. ZEYNAL TÜMSAVAŞ	
15	Course Lecturers:		
16	Contact information of the Course Coordinator:	zeynal@uludag.edu.tr, 0224.2941536, U.Ü. Ziraat Fak. Toprak Bilimi ve Bitki Besleme Bölümü. Görükle-Nilüfer/Bursa	
17	Website:		
18	Objective of the Course:	The phases in soil and describe their static and dynamic relations among of phases, assess the affects physical properties of soil which affect crop production and find solutions to problems.	
19	Contribution of the Course to Professional Development:		
20	Learning Outcomes:		
		1	Is equipped with basic knowledge of soil physics.
		2	Knows the effects of soil physical conditions for the plant grow.
		3	Can do soil anaysis to determine the soil physical properties and can use the equipments utilized fort his purpose.
		4	Knows the effects of different agricultural practices to soil physical conditions and can make suggestions for solving the problems that may arise.
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21	Course Content:		

Course Content:

Week	Theoretical	Practice
1	Definition of soil physics, interests, its importance and purposes.	Purposes of taking soil samples, sampling method, points to be considered in taking soil samples.
2	The physical condition of the soil, the volume and mass relationships of the three-phases in soil	Determine the specific gravity of soils

3	Solid phase of soil, soil texture	Mechanical analysis of soil (texture analysis)
4	Classes of soil texture, soil structure	Evaluate the results of the mechanical analysis of soil
5	Aggregate formation and stability	Determine the bulk density of soil
6	Determination of soil structural condition	Determination of soil porosity
7	Soil aeration	The theoretical description of the the wet sieving method used for determining of aggregate stability
8	Midterm exam, course assessment	Determination of moisture content of soils
9	Structure of soil water, adsorption on solid surfaces, electrical double layer, dispersion of soil colloids.	EC analysis or sample application that shows the formation of electrical double layer
10	Types of water and water movement in soil	Percentage of soil saturation
11	Measurement of soil water content and its expression.	Analysis the moisture of air-dry soil (absolute humidity)
12	The temperature of soil	To show how to take soil samples from field as a practical
13	The potential energy of soil water	Determination of field capacity moisture content of soils
14	A general repetition of incomprehensibled subjects	Practical exam, course assessment

22	Textbooks, References and/or Other Materials:	•Yeşilsoy, M.Ş. 1995. Soil Physics. Ç. Ü. Agr. Fac. Course Book, Adana. •Tuncay, H. 1994. Soil Physics. E. Ü. Agr. Fac. Course Book No: 28, İzmir.
23	Assesment	

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	3.00	42.00
Homeworks	0	0.00	0.00
Projects	0	0.00	0.00
Field Studies	0	0.00	0.00
Midterm exams	1	10.00	10.00
Others	0	0.00	0.00
Final Exams	1	12.00	12.00
Total Work Load			130.00
Total work load/ 30 hr			4.00
ECTS Credit of the Course			4.00

Quiz 0 0.00
Final Exam 1 60.00
Contribution of Term (Year) Learning Activities to Success Grade 40.00
Contribution of Final Exam to Success Grade 60.00
Measurement and Evaluation Techniques Used in the Course

24 ECTS / WORK LOAD TABLE

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	4	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0
ÖK2	0	0	0	0	0	0	4	0	0	3	0	0	0	0	0	0
ÖK3	0	0	0	3	0	0	0	0	0	3	0	0	0	0	0	0
ÖK4	0	0	0	0	0	0	4	0	0	0	3	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