IMPROVEMENT OF SALTY AND ALKALINE SOILS

1	Course Title:	IMPROVEMENT OF SALTY AND ALKALINE SOILS
2	Course Code:	TOP5973
3	Type of Course:	Optional
4	Level of Course:	Second Cycle
5	Year of Study:	1
6	Semester:	1
7	ECTS Credits Allocated:	6.00
8	Theoretical (hour/week):	3.00
9	Practice (hour/week):	0.00
10	Laboratory (hour/week):	0
11	Prerequisites:	None
12	Language:	Turkish
13	Mode of Delivery:	Face to face
14	Course Coordinator:	Prof. Dr. Cumhur Aydınalp
15	Course Lecturers:	Yok
16	Contact information of the Course Coordinator:	Adres: Ziraat Fakültesi, Toprak Bilimi ve Bitki Besleme Bölümü, Görükle, Nilüfer, BURSA e-posta: cumhur@uludag.edu.tr Tel: 0-224-29 41 535
17	Website:	
18	Objective of the Course:	To give information about properties, distribution areas and improvement of saline and alkaline soils that spread in the World and in our country, starting from the reasons of their formation.
19	Contribution of the Course to Professional Development:	To obtain general information about Salty and Alkaline Soils in our country and in the world. To know what kind of irrigation, tillage, etc. on these soils. To design plants to be grown in salty and alkaline soils and growing conditions. To classify saline and alkaline soils and realize that they can be transformed into agricultural lands.
20	Learning Outcomes:	
	1	To obtain general information about Salty and Alkaline Soils in our country and in the world.
	2	To know what kind of irrigation, tillage, etc. on these soils.
	3	To design plants to be grown in salty and alkaline soils and growing conditions.
	4	To classify saline and alkaline soils and realize that they can be transformed into agricultural lands.
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21	Course Content:	
	Course Content:	

Week	Theoretical	Practice
1	Definition and properties of saline and alkaline soils.	
2	Distribution of saline and alkaline area in Turkey.	
3	Classification of saline alkaline soils.	
4	Formation of saline and alkaline soils.	
5	Effects of salinization and alkalization on crop production.	
6	Effect of salinity on the physical properties of soils.	
7	The effect of salinity on the chemical properties of soils.	
8	The effect of alkalinity on the physical properties of soils.	
9	The effect of alkalinity on the chemical properties of soils.	
10	Properties of irrigation water used in salty and alkaline soils.	
11	Plants resistance to salinity.	
12	Gypsum applications.	
13	Analysis methods.	
14	Analysis methods.	

22	Textbooks, References and/or Other Materials:	Richards, L.A., 1954. Diagnosis and improvement of saline and alkali soils. USDA, Agriculture Handbook No. 60, Washington D.C. Gupta, S.K., 2019. Handbook of Saline and Alkali Soils Diagnosis Reclamation and Management Paperback – 1 January 2019.
23	Assesment	

TERM LEARNING ACTIVITIES	**NUMBER**	**WEIGHT**
Midterm Exam	0	0.00
Quiz	0	0.00
Home work-project	0	0.00
Final Exam	1	100.00
Total	1	100.00
Contribution of Term (Year) Learning Activities to Success Grade		0.00
Contribution of Final Exam to Success Grade		100.00
Total		100.00
Measurement and Evaluation Techniques Used in the Course		ppt presentation, mutual discussions, evaluation of the issues with different sources.

24	**ECTS / WORK LOAD TABLE**

Activites	Number	Duration (hour)	Total Work Load (hour)
Theoretical	14	3.00	42.00
Practicals/Labs	0	0.00	0.00
Self study and preperation	14	3.00	42.00
Homeworks	4	10.00	40.00
Projects	4	10.00	40.00
Field Studies	0	0.00	0.00
Midterm exams	0	0.00	0.00
Others	0	0.00	0.00
Final Exams	1	12.00	12.00
Total Work Load			176.00
Total work load/ 30 hr			5.87
ECTS Credit of the Course			6.00

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	3	3	4	1	2	4	5	4	5	4	5	4	4	5	4	5
ÖK2	3	3	4	1	2	4	5	4	5	4	5	4	5	5	4	5
ÖK3	3	3	4	1	2	4	5	4	5	4	5	4	5	4	4	5
ÖK4	4	4	5	1	2	5	5	5	5	5	5	5	4	5	5	5

LO: Learning Objectives PQ: Program Qualifications

Contribution Level:	**1 very low**	**2 low**	**3 Medium**	**4 High**	**5 Very High**