



## AYDIN ADNAN MENDERES UNIVERSITY COURSE INFORMATION FORM

Course Title		Soil-Water-Plant Relationships							
Course Code		ZTY539		Course Level		Second Cycle (Master's Degree)			
ECTS Credit	8	Workload	200 (Hours)	Theory	2	Practice	2	Laboratory	0
Objectives of the Course		The aim of this course is to teach the relations between soil-water and plant, in order to design and image proper irrigation and drainage systems							
Course Content		Physical, chemical and biological processes occur in rhizosphere. Soil water holding capacity and availability of water for plants., Factors affecting on water and nutrient movement in soil and absorption by roots. , Water potentials in plants, Water movement within plants, Water cycle in soil-plant-atmosphere continuum, Plant-environment relationships, Respond of plants to water stres.							
Work Placement		N/A							
Planned Learning Activities and Teaching Methods				Explanation (Presentation), Discussion, Case Study, Individual Study, Problem Solving					
Name of Lecturer(s)		Prof. Necdet DAĞDELEN							

### Assessment Methods and Criteria

Method	Quantity	Percentage (%)
Midterm Examination	1	40
Final Examination	1	60

### Recommended or Required Reading

1	Water Relations of Plants and Soils. Kramer, J.P. ve J.B.Boyer, Academic Press.
2	Yeşilsoy, M. Ş., and M. Aydın. 1976. " Soil Physics (Toprak Fiziği)." ÇÜ Ziraat Fakültesi Yayınları 116

Week	Weekly Detailed Course Contents	
1	Theoretical	Physical and chemical properties of irrigation water
2	Theoretical	Osmotic phonemona and cell water relations
3	Theoretical	Physical properties of soil
4	Theoretical	Movement of water in the soil and soil water balance
5	Theoretical	Infiltration and measurement techniques
6	Theoretical	Hydraulic conductivity and measurement techniques
7	Theoretical	Measurement of soil moisture and define techniques
8	Intermediate Exam	Midterm exam
9	Theoretical	Control of soil water for irrigation and irrigation techniques
10	Theoretical	Plant roots and root systems
11	Theoretical	Development of plant root systems
12	Theoretical	Environment factors for root systems
13	Theoretical	Soil structure and texture, temperature and soil air
14	Theoretical	Respond of plants to water stress
15	Theoretical	Final exam

### Workload Calculation

Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	5	2	98
Lecture - Practice	14	4	2	84
Midterm Examination	1	6	2	8
Final Examination	1	8	2	10
Total Workload (Hours)				200
[Total Workload (Hours) / 25*] = ECTS				8

\*25 hour workload is accepted as 1 ECTS



**Learning Outcomes**

1	To have about soil water
2	To obtained I water relations of plants and soils
3	To understand soil water use with plants
4	To explain plant-water relations
5	To explain the water-yield relationships

**Programme Outcomes (Agricultural Structures and Irrigation Master)**

1	Ability to use, evaluate and improve the knowledge gained from field of study at an expert level
2	Ability to reach necessary the knowledge
3	To able to conduct scientific studies (research) related to the field
4	Ability to consider academical and ethical values the studies
5	Ability to improve editing method and evaluate the results of researches
6	The studies, the ability to reach result and application, develop new approaches
7	A topic in the field of written, verbally and visually as the ability to express
8	Effective use of Turkish language and ability to communicate in a foreign language both written and verbal

**Contribution of Learning Outcomes to Programme Outcomes 1:Very Low, 2:Low, 3:Medium, 4:High, 5:Very High**

	L1	L2	L3	L4	L5
P1	4	5	5	5	5
P2	5	4	5	4	5
P3	5	4	5	5	4
P4	4	4	5	4	4
P5	5	5	5	5	4
P6	5	5	4	4	3
P7	5	5	4	4	3
P8	4	4	3	4	3

