



AYDIN ADNAN MENDERES UNIVERSITY
GRADUATE SCHOOL OF NATURAL AND APPLIED SCIENCES
FIELD CROPS
FIELD CROPS
FIELD CROPS MASTER
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)	Assoc. Prof. Selin Muradiye AKÇAY								

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 (Field Crops Master)

1	To be able to improve and deepen the level of expertise in field crops on the basis of the departments licenses qualifications.
2	To be able to recognize the subjects related to field crops, to be able to solve these and make interpretation.
3	To be able to have the skills of acting independently, to have power to decide and to create.
4	To be able to work in teams between departments
5	To be able to give briefing about latest information of Field Crops in written, oral and visual ways.
6	To be able to take responsibility for developing the new approaches and to formulate a solution facing unforeseen complex situations of applications,
7	To be able to defend the original opinions in both Turkish and in foreign languages by using these languages and communicating effectively.
8	To be able to contribute to science by producing knowledge for the aim of improving quality, efficiency and sustainability
9	To be able to apply breeding methods in order to improve new varieties for Field Crops.
10	To be able to maintain and select the appropriate statistical methods within the framework of the study, evaluation of scientific ethics; to convert the results into a report/dissertation and to offer them by producing scientific publications.

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	2	2	2	2	2
P2	2	2	2	2	2
P3	2	2	2	2	2
P4	3	2	2	2	2
P5	3	2	2	2	2
P6	3	2	2	2	3
P7	3	2	3	2	3
P8	2	2	3	2	3
P9	2	2	3	2	3
P10	2	2	3	2	3

