



## AYDIN ADNAN MENDERES UNIVERSITY COURSE INFORMATION FORM

Course Title		Physiology of Agricultural Plants in Stress							
Course Code		ZTO522		Couse Level		Second Cycle (Master's Degree)			
ECTS Credit	7	Workload	180 ( <i>Hours</i> )	Theory	2	Practice	2	Laboratory	0
Objectives of the Course		In general the aim of the course is to give information about response of plants against environmental stress factors.							
Course Content		Terminology, Sources of environmental stress for plants. Physical Sources (Drought, Temperature, Radiation, Flooding, Mechanical, Electrical, Magnetic, Wind). Chemical Sources (Air Pollution, Allelochemicals, Nutrients, Pesticides, Toxins, Salts, pH of soil solution). Biotic Sources (Competition, Allelopathy, Lack of Symbiosis, Human Activities, Diseases, Insects)							
Work Placement									
Planned Learning Activities and Teaching Methods				Explanation (Presentation), Experiment, Demonstration, Discussion, Project Based Study, Problem Solving					
Name of Lecturer(s)		Prof. Mehmet Ali DEMİRAL							

### Assessment Methods and Criteria

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

### Recommended or Required Reading

1	The Physiology of Plants under Stress. Maynard G. Hale, David M. Orcutt. 1987. John Wiley & Sons Inc. ISBN. 0-471-88997-0.
2	Bitki Besleme. Burhan Kacar, Vahap Katkat. 1998. Vipaş Yayınları. ISBN: 975-564-068-1.
3	Bitki Fizyolojisi. Burhan Kacar, Vahap Katkat, Şule Öztürk. 2002. Nobel Yayıncılık. ISBN. 978-975-591-833-4.

Week	Weekly Detailed Course Contents	
1	Theoretical	Terminology
	Preparation Work	Power point presentation.
2	Theoretical	Physical Stress Factors
	Preparation Work	Power point presentation.
3	Theoretical	Physical Stress Factors
	Preparation Work	Power point presentation.
4	Theoretical	Physical Stress Factors
	Preparation Work	Power point presentation.
5	Theoretical	Physical Stress Factors
	Preparation Work	Laboratory work.
6	Theoretical	Physical Stress Factors
	Preparation Work	Laboratory work.
7	Theoretical	Physical Stress Factors
	Preparation Work	Laboratory work.
8	Intermediate Exam	Midterm Exam
9	Theoretical	Chemical Stress Factors
	Preparation Work	Laboratory work.
10	Theoretical	Chemical Stress Factors
	Preparation Work	Laboratory work.
11	Theoretical	Chemical Stress Factors
	Preparation Work	Experimental Study at greenhouse
12	Theoretical	Biotic Stress Factors
	Preparation Work	Power point presentation.
13	Theoretical	Biotic Stress Factors
	Preparation Work	Experimental Study at greenhouse
14	Theoretical	Biotic Stress Factors



14	Preparation Work	Power point presentation.
15	Theoretical	Biotic Stress Factors
	Preparation Work	Power point presentation.
16	Theoretical	Final Examination

**Workload Calculation**

Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	0	2	28
Lecture - Practice	14	0	2	28
Assignment	2	0	10	20
Term Project	2	0	20	40
Laboratory	8	0	2	16
Midterm Examination	1	0	16	16
Final Examination	1	0	32	32
Total Workload (Hours)				180
[Total Workload (Hours) / 25*] = <b>ECTS</b>				7

\*25 hour workload is accepted as 1 ECTS

**Learning Outcomes**

1	To be able to recognize and classify the concept of stress.
2	To be able to recognize the concept of plant under stress.
3	To be able to recognize the concept of zero stress.
4	To be able to recognize and classify the plant responses against environmental stress.
5	To learn the stress related protein synthesis, and functions of these proteins under stress conditions.

**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	3	2
P2	2	3	2	3	2
P3	2	3	2	3	3
P4	2	4	3	3	3
P5	3	4	3	2	3
P6	3	4	3	2	3
P7	3	4	3	2	3
P8	3	4	3	2	4
P9	4	3	4	2	4
P10	4	3	4	2	4

