STRESS PHYSIOLOGY OF PLANTS

1	Course Title:	STRESS PHYSIOLOGY OF PLANTS
2	Course Code:	BYL4102
3	Type of Course:	Optional
4	Level of Course:	First Cycle
5	Year of Study:	4
6	Semester:	8
7	ECTS Credits Allocated:	4.00
8	Theoretical (hour/week):	2.00
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. GÜRCAN GÜLERYÜZ
15	Course Lecturers:	
16	Contact information of the Course Coordinator:	Doç. Dr. Hülya ARSLAN U.Ü. Fen-Edebiyat Fak., Biyoloji Bölümü Görükle Kampüsü, BURSA Tel: 0224 2941799 arslanh@uludag.edu.tr
17	Website:	
18	Objective of the Course:	The aim of the course is to teach the students the physiological responses of plants to stress factors. The goals are to teach the stress factors and response mechanisms of plants.
19	Contribution of the Course to Professional Development:	
20	Learning Outcomes:	

	1	Understanding the stress, stres factors and reactions.
	2	Correlating the physical and biological stress concepts.
	3	Understanding the tolerance mechanisms of plant to water (drought and anaerobiosis)
	4	Understanding the tolerance mechanisms of plants to high and low (frost) temperatures.
	5	Understanding the tolerance mechanisms of plants to salinity in soils.
	6	Understanding the tolerance mechanisms of plants to highlight intensity and ultraviolet.
	7	Understanding the tolerance mechanisms of plants to biotic stress.
	8	Understanding the tolerance mechanisms of plants to anthropogenic stress.
	9	
	10	

21	Course Content:	
	Course Content:	
Week	Theoretical	Practice

1	Stress concept and environmental factors creating stres for plants.	
2	Comparison of physical and biological stres concept, stres reactions.	
3	Physiological responses of plants to drought stress.	
4	Physiological responses of plants to oxygen deficiency (anaerobiosis and hypoxia).	
5	Physiological responses of plants to high temperature.	
6	Physiological responses of plants to lowt emperature (cold and frost).	
7	Repeating courses and midterm exam	
8	Physiological responses of plants to salt (osmotic) stress.	
9	Physiological responses of plants to light (Visible light and UV).	
10	Physiological responses of plants to heavy metals.	
11	Aluminium toxicity and physiological responses of plants.	
12	Physiological responses of plants to herbicids.	
13	Physiological responses of plants to gaseous air pollutants.	
14	Biotic stress (herbivory, infection, allelopathy)	

Activites		Number	Duration (hour)	Total Work Load (hour)
Theoretical	Materials:	Fizyolojisi, Palme Yayıncılık, 2008. H.R. Lerner, Plant Responses Environmental Stresses.		
Practicals/Labs				
Self study and preperation				
22 Assesment				
Homeworks				
TERM LEARNING ACTIVITIES	**NUMBER**	**WEIGHT**		
Projects				
Field Studies				
Quiz				
Midterm exams	0	0.00		
Others				
Final Exams		60.00		
Total Work Load				
Total Work Load of 30 hr (Year) Learning Activities to Contribution of Term		40.00		
ECTS Credit of the Course				4.00
Contribution of Final Exam to Success Grade		60.00		
Total		100.00		
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	0	0	0	4	0	3	0	0	0	0	0	0	0	0	0	0
ÖK2	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0

ÖK3	0	0	0	3	0	5	0	3	0	0	0	0	0	0	0	0
ÖK4	0	0	0	4	0	5	0	3	0	0	0	0	0	0	0	0
ÖK5	0	0	0	4	0	5	0	3	0	0	0	0	0	0	0	0
ÖK6	0	0	0	4	0	5	0	3	0	0	0	0	0	0	0	0
ÖK7	0	0	0	0	0	5	0	3	0	0	0	0	0	0	0	0
ÖK8	0	0	0	0	0	5	0	3	0	0	0	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**