PLANT WATER RELATIONS

1	Course Title:	PLANT WATER RELATIONS	
2	Course Code:	BAB6008	
3	Type of Course:	Optional	
4	Level of Course:	Third Cycle	
5	Year of Study:	1	
6	Semester:	2	
7	ECTS Credits Allocated:	6.00	
8	Theoretical (hour/week):	2.00	
9	Practice (hour/week):	2.00	
10	Laboratory (hour/week):	0	
11	Prerequisites:	-	
12	Language:	Turkish	
13	Mode of Delivery:	Face to face	
14	Course Coordinator:	Doç.Dr. ASUMAN CANSEV	
15	Course Lecturers:		
16	Contact information of the Course Coordinator:	Bursa Uludağ Üniversitesi Ziraat Fakültesi Bahçe Bitkileri Bölümü Görükle Kampusu 16059 BURSA Tel.: 224-2941641 E-posta: auslu@uludag.edu.tr	
17	Website:		
18	Objective of the Course:	To give current scientific knowledge about the structure and physical-chemical characteristics of water; plants water absorption, transportation and loss, determination of plant water requirement, determination of plant and soil water status for an effective irrigation treatment.	
19	Contribution of the Course to Professional Development:	Students will comprehend the importance of horticultural cultivation and plant-water relations and will use the knowledge they have learned in their professional lives.	
20	Learning Outcomes:		
		1	Knows the structure, functions and properties of water.
		2	Understands the absorption, transportation and loss of water in plants.
		3	Determines the plant water requirement.
		4	Measures and explains the soil and plant water contents.
		5	Measures and explains leaf water potential and gas exchange parameters.
		6	Using the information obtained at the level of expertise could establish original researches in the field of horticulture.
		7	Examines and recommends solutions to the problems by the use of current scientific methods and techniques that may occur in plant water relations.
		8	Communicates with other parts of the society at a professional level and transmits information to the partners.
		9	
		10	
21	Course Content:		

	Course Content:	
Week	Theoretical	Practice
1	Giving information about the course	Discussion of student expectations and needs; selection of a plant species for the experiments
2	Structure and physi-chemical characters of water	Establishment of trials for selected projects
3	Water content and status in plant	Determination of water content in different tissues and organs
4	Role of water in plant life	Determination of daily water consumption
5	Water uptake by plant cells	Creating some variation in the trials with the use of different factors affecting water absorption
6	Water uptake by plant roots	Measurement of leaf water potential
7	Factors affecting water uptake	Measurement of gas exchange parameters
8	Water loss in plants: Transpiration	Determination and monitoring of plant water status
9	Factors affecting water loss of plants	Determination and monitoring of soil water status
10	Water transport in plant	Effective irrigation methods based on soil and plant water status
11	Basic principles in determination of plant water requirement	Evaluation and discussion of selected papers
12	Soil water status	General evaluation
13	Soil water status	General evaluation
14	Soil water status	General evaluation

Activites	Number	Duration (hour)	Total Work Load (hour)
Theoretical	14	2.00	28.00
Practicals/Labs	14	2.00	28.00
Self-study and preperation	14	3.00	42.00
Homeworks	10	2.00	20.00
Projects	1	60.00	60.00
Field Studies	0	0.00	0.00
Midterm exams	1	2.00	2.00
Others	0	0.00	0.00
Final Exams	1	2.00	2.00
Total Work Load			184.00
Total work load/ 30 hr			6.07
ECTS Credit of the Course			6.00

22	Textbooks, References and/or Other Materials:	* Water relations of plants and soils (Kramer, Paul J.; Boyer, John S.) Academic press (1995) * Principles of Soil and Plant Water Relations (M.Kirkham) Academic Press, ISBN: 9780124097513 (2004) * Measuring the Water Status of Plants and Soils (Boyer, J.) Academic Press, Inc. (1995)

TERM LEARNING ACTIVITIES	**NUMBE**	**WEIGHT**
Midterm Exam	1	25.00
Home work-project	10	25.00
Final Exam	1	50.00
Total	12	100.00
Contribution of Term (Year) Learning Activities to Success Grade		50.00
Contribution of Final Exam to Success Grade		50.00
Total		100.00
Measurement and Evaluation Techniques Used in the Course		exam

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	5	3	3	1	1	3	1	3	1	1	0	0	0	0	0	0
ÖK2	5	3	3	3	3	3	3	3	3	2	0	0	0	0	0	0
ÖK3	5	5	5	4	5	3	3	4	3	3	0	0	0	0	0	0
ÖK4	5	5	5	4	5	3	3	4	3	3	0	0	0	0	0	0
ÖK5	5	5	5	4	5	3	3	4	3	3	0	0	0	0	0	0
ÖK6	5	5	5	5	4	4	4	5	3	3	0	0	0	0	0	0
ÖK7	5	5	5	5	5	5	5	5	3	3	0	0	0	0	0	0
ÖK8	2	2	2	2	2	5	2	5	2	2	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**					