

# PLANT NUTRITION AND FERTILIZATION

1	Course Title:	PLANT NUTRITION AND FERTILIZATION
2	Course Code:	SBYZ204
3	Type of Course:	Compulsory
4	Level of Course:	Short Cycle
5	Year of Study:	1
6	Semester:	2
7	ECTS Credits Allocated:	2.00
8	Theoretical (hour/week):	2.00
9	Practice (hour/week):	0.00
10	Laboratory (hour/week):	0
11	Prerequisites:	-
12	Language:	Turkish
13	Mode of Delivery:	Face to face
14	Course Coordinator:	Öğr.Gör.Dr. YILMAZ DORUK
15	Course Lecturers:	Öğr.Gör.Dr.Yilmaz DORUK
16	Contact information of the Course Coordinator:	yzdoruk@uludag.edu.tr, 02242942374, U.Ü.Teknik Bilimler Meslek Yüksekokulu B Blok-Görükle Kampüsü/Bursa
17	Website:	
18	Objective of the Course:	To learn the basic principles of plant nutrition, to get detailed informations on plant nutrients ,their functions on plants , interactions with each others.
19	Contribution of the Course to Professional Development:	
20	Learning Outcomes:	
	1	Explaining effects of factors to fertilization and finding relationships among them
	2	Identification of symptoms on deficiency and excess of plant nutrition elements in hort and greenhouse plants, gaining ability on how to get precaution incase of deficiency and excess stations.
	3	Learning Application forms, timing, and amount of fertilization, and gaining ability on application of fertilization of plants.
	4	Data collection, calculation, and interpretation for preperation of fertilization program
	5	Preperation of specific fertilization program for hort and greenhouse plant
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21	Course Content:	
	Course Content:	
Week	Theoretical	Practice

1	Introduction The history of plant nutrition. Essential plant nutrients Basic principles on plant nutrient uptakes. Concept of Plant nutrition and fertilization, Classification of fertilizers			
2	Compost, urban waste, blood dust, leather dust, powder horns and nails, guano, green manure, green manure crops and cultivation systems			
3	Effective factors on organic matter and nitrogen amount in the green manuring. The effect of green manuring on the soil physical, chemical and biological properties. Biological fertilizer, the classification of biological fertilizers,-application methods, biological N fixation and related species of bacteria, mycorrhizal fungi			
4	Nitrogen uptake on plant nutrition Its metabolism Its interactions with the other plant nutrients , deficiency, toxicity and their eliminations			
5	Phosphorus uptake on plant nutrition Its metabolism Its interactions with the other plant nutrients , deficiency, toxicity and their eliminations			
6	Potassium uptake on plant nutrition Its metabolism Its interactions with the other plant nutrients , deficiency, toxicity and their eliminations			
Activites		Number	Duration (hour)	Total Work Load (hour)
Theoretical	eliminations	14	2.00	28.00
Practicals/Labs		0	0.00	0.00
9	Iron and Magnesium uptake on plant nutrition Its metabolism Its interactions with the other	14	1.00	14.00
Homeworks		0	0.00	0.00
Projects	eliminations	0	0.00	0.00
10	Copper, Molibdenium, Boron, Chloro and Zinc	0	0.00	0.00
Field Studies		0	0.00	0.00
Midterm exams	interactions with the other plant nutrients , deficiency, toxicity and their eliminations	2	6.00	12.00
Others		0	0.00	0.00
Final Exam	disadvantages	1	8.00	8.00
Total Work Load				62.00
Total work load, 30 hr				2.07
ECTS Credit of the Course				2.00
14	Methods of fertilization			
22	Textbooks, References and/or Other Materials:	Güneş, A., Alpaslan, M. ve İnal, A. 2004. Bitki Besleme ve Gübreleme. A.Ü. Ziraat Fakültesi yayın No: 1539, Ders Kitabı: 492. Kacar, B. ve Katkat, V. 2006. Bitki Besleme. Nobel Yayın Kacar, B. ve Katkat, V. 1999. Gübreler ve Gübreleme Tekniği. Vipaş A.Ş. Bursa		
23	Assesment			
TERM LEARNING ACTIVITIES		NUMBER	WEIGHT	
Midterm Exam		2	50.00	
Quiz		0	0.00	
Home work-project		0	0.00	

Final Exam	1	50.00
Total	3	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		
<b>24</b>	<b>ECTS / WORK LOAD TABLE</b>	

<b>25</b>	<b>CONTRIBUTION OF LEARNING OUTCOMES TO PROGRAMME QUALIFICATIONS</b>															
	PQ1	PQ2	PQ3	PQ4	PQ5	PQ6	PQ7	PQ8	PQ9	PQ10	PQ11	PQ12	PQ13	PQ14	PQ15	PQ16
ÖK1	0	0	5	0	0	0	2	0	0	4	0	0	3	0	1	0
ÖK2	0	0	5	0	0	0	2	0	0	4	0	0	3	0	1	0
ÖK3	0	0	5	0	0	0	2	0	0	4	0	0	3	0	1	0
ÖK4	0	0	5	0	0	0	2	0	0	4	0	0	3	0	1	0
ÖK5	0	0	5	0	0	0	2	0	0	4	0	0	3	0	1	0
<b>LO: Learning Objectives    PQ: Program Qualifications</b>																
<b>Contribution Level:</b>	<b>1 very low</b>		<b>2 low</b>		<b>3 Medium</b>		<b>4 High</b>		<b>5 Very High</b>							