

PHYTOBACTERIOLOGY

1	Course Title:	PHYTOBACTERIOLOGY
2	Course Code:	BTK3605
3	Type of Course:	Compulsory
4	Level of Course:	First Cycle
5	Year of Study:	3
6	Semester:	5
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:	None
12	Language:	Turkish
13	Mode of Delivery:	Face to face
14	Course Coordinator:	Dr. Öğr. Üyesi KADİR İLHAN
15	Course Lecturers:	Yrd. Doç. Dr. Kadir İlhan
16	Contact information of the Course Coordinator:	E-posta: kadirilhan@uludag.edu.tr Tel: 90.224.2941571 Bursa U. Ü. Ziraat Fak. Bitki Koruma Bölümü 16059 Görükle/BURSA
17	Website:	
18	Objective of the Course:	This course is designed to teach students the general characteristics of bacteria, to give basic information on bacterial cell, growth and reproduction, to introduce certain taxonomic categories that contain plant pathogenic bacteria, symptoms caused bacteria in the plant, the disease-causing factors, ways to transport and spread of bacteria, control methods against important bacterial plant diseases.
19	Contribution of the Course to Professional Development:	This course provides students basic knowledge about phytobacteriology
20	Learning Outcomes:	
	1	Students should be able to main characteristics of bacteria distinguishing them from other groups of microorganism
	2	To understand their importance in many relations with human life
	3	To comprehend the differences in phenotypic characters that are essential for bacterial taxonomy.
	4	To understand the reproduction and growth of bacteria
	5	To learn propagation and dissemination of the bacteria
	6	To be able to distinguish bacteria than yeast
	7	To learn how to adjust bacterial inoculum concentrations
	8	To learn ways to spread plant pathogenic bacteria
	9	To learn symptoms, life circles, epidemiology and control methods of important phytopathogen bacteria
	10	To be learn control methods of plant pathogenic bacteria.
21	Course Content:	
	Course Content:	
Week	Theoretical	Practice

1	Introduction to bacteriology, their significant for human life and environment, the place of bacteria in the kingdoms of life.			
2	Bacterial cell structure, nutrition and growth of bacteria, physiology of bacteria			
3	Classification and nomenclature of bacteria			
4	Pathogenicity and pathogenicity factors of bacteria, bacteriophage and bacteria like organism			
5	Transportation and spread of bacteria,			
6	Disease symptoms of bacteria and prepare to bacteria inoculum			
7	Repeating courses and midterm exam			
8	Identification of bacteria, morphological, biochemical and physiological characteristics, serological definitions			
9	Agrobacterium tumefaciens and Erwinia amylovora symptoms, life circle, epidemiology and control methods			
10	Xanthomonas campestris, Xanthomonas campestris pv. phaseoli symptoms, life circles, epidemiology and control methods			
11	Clavibacter michiganence Pseudomonas solanacearum, symptoms, life circle, epidemiology and control methods			
12	Pseudomonas syringae pv. lachrymans P			
Activites		Number	Duration (hour)	Total Work Load (hour)
Theoretical	syringae symptoms, life circles, epidemiology and control methods	14	2.00	28.00
Practicals/Labs		0	0.00	0.00
Self study and preparation		0	0.00	0.00
Homeworks		1	5.00	5.00
Projects	Materials: Strategies and Techniques to Promote Plant Growth. 2008. WILEY-VCH Verlag GmbH & Co. KGaA, Weinheim	0	0.00	0.00
Field Studies		0	0.00	0.00
Midterm exams	Saygılı, H., Şahin, F., Aysan, Y., 2006. Fitobakteriyoloji Meta Basım	1	10.00	10.00
Others		1	5.00	5.00
Final Exams	Agrios, G.N. 2005. Plant Pathology. Fifth Edition Academic Press, Inc. p952	1	15.00	15.00
Total Work Load				63.00
Total work load/ 30 hr				2.10
ECTS Credit of the Course				2.00
		Baykal, N., 1990. Bakteriyoloji. Uludağ Üniversitesi Ziraat Fakültesi Ders Notları No: 63, 101 s. Klement Z., Rudolph K., Sands DC. 1990. Methods in Phytobacteriology. Akademiai Kiado.		
23	Assesment			
TERM LEARNING ACTIVITIES		NUMBE R	WEIGHT	
Midterm Exam		1	30.00	
Quiz		1	5.00	
Home work-project		1	5.00	
Final Exam		1	60.00	
Total		4	100.00	

Contribution of Term (Year) Learning Activities to Success Grade	40.00
Contribution of Final Exam to Success Grade	60.00
Total	100.00
Measurement and Evaluation Techniques Used in the Course	It is evaluated according to the principles of the Associate and Undergraduate Education Regulation of Bursa Uludağ University.
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	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ÖK2	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ÖK3	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ÖK4	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ÖK5	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ÖK6	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ÖK7	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ÖK8	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ÖK9	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0
ÖK10	0	0	4	0	0	0	0	0	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							