

BIOLOGICAL CONTROL

1	Course Title:	BIOLOGICAL CONTROL
2	Course Code:	BIT5003
3	Type of Course:	Compulsory
4	Level of Course:	Second Cycle
5	Year of Study:	1
6	Semester:	1
7	ECTS Credits Allocated:	6.00
8	Theoretical (hour/week):	3.00
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:	Doç.Dr. HİMMET TEZCAN
15	Course Lecturers:	Doç. Dr. Nimet Sema Gençer
16	Contact information of the Course Coordinator:	e-mail: himmett@uludag.edu.tr Tel: (90) 224 29 41 572 Uludağ Üniversitesi Ziraat Fakültesi Bitki Koruma Bölümü Görükle Kampüsü 16059 BURSA/ TÜRKİYE
17	Website:	http://www20.uludag.edu.tr/~bitkik/ludi/biyolojik_mucadele_ing.docx
18	Objective of the Course:	The purpose of the course is to give the student a thorough understanding of the principles and methods of biological control of pests and diseases, provide knowledge of basic identification of biological control agents and help to understand relationships between pests and their natural enemies, observing the biocontrol mechanisms between the microorganisms in the ecological aspects, bioformulation and application of the biocontrol agents against to plant diseases and pests.
19	Contribution of the Course to Professional Development:	
20	Learning Outcomes:	
	1	To know history and importance of biological control
	2	To understand the antagonistic mode of action of biocontrol agents
	3	To know parasitoids and predators
	4	To know biological control agents for plant pathogens
	5	To know natural enemy conservation
	6	To know principles and methods of introduction of new natural enemies
	7	To know augmentation of parasitoids, predators and pathogens
	8	To know nature conservation
	9	To understand the scale-up production, and formulation of promising biocontrol agents
	10	Creating an article, report and Project and evaluating these

21	Course Content:			
	Course Content:			
Week	Theoretical	Practice		
1	Pest origins, pesticides, and the history of biological control			
2	Biological control agents and biological control methods			
3	Parasitoids and predators of arthropods and molluscs			
4	Natural enemy conservation,			
5	Introduction of new natural enemies,			
6	Augmentation of parasitoids, predators			
7	Biology of arthropod parasitoids and predators			
8	Introduction of biological control of plant diseases, natural balance			
9	Introduction to the mode of action the biological controls; antibiosis in rhizosphere and phylloplane			
10	Mechanisms of competition			
11	Mechanisms of hyperparasitism, cross protection and induced resistance			
12	Isolations of potential antagonistic microorganisms in field, in vitro tests for			
Activities		Number	Duration (hour)	Total Work Load (hour)
13	Genetic manipulations in order to improve the effectiveness of biocontrol organism	14	3.00	42.00
Practicals/Labs		0	0.00	0.00
Self study and preparation		0	0.00	0.00
Homeworks		2	29.00	58.00
Projects		0	0.00	0.00
Field Studies		0	0.00	0.00
Midterm exams		Savaş. - Prizma Matbaası, İzmir, 2005 s. 10	0.00	0.00
Others		0	0.00	0.00
Final Exams		İzmir Kültür Varlıkları ve Mirasları Dairesi Başkanlığı, İzmir, 2005 s. 1	110.00	110.00
Total Work Load				210.00
Total work load/ 30 hr		Chapman & Hall-An International Thomson Publishing Company.		7.00
ECTS Credit of the Course				6.00
		H.D.BURGES, H.D., 1998. Formulation of Microbial Biopesticides: Beneficial microorganisms, nematodes and seed treatments. Kluwer Academic Publishers. Cook, R.J. and Baker, K.F. 1983. The Nature and Practice of Biological Control of Plant Pathogens, APS Press, St. Paul, Minnesota, USA		
23	Assesment			
TERM LEARNING ACTIVITIES		NUMBER	WEIGHT	
Midterm Exam		0	0.00	
Quiz		0	0.00	
Home work-project		2	20.00	
Final Exam		1	80.00	

Total	3	100.00
Contribution of Term (Year) Learning Activities to Success Grade	20.00	
Contribution of Final Exam to Success Grade	80.00	
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	4	4	0	4	0	0	5	0	0	0	0	0	0	0	0	0
ÖK2	5	0	0	0	0	4	5	0	0	5	0	0	0	0	0	0
ÖK3	0	0	0	0	0	4	5	0	0	0	0	0	0	0	0	0
ÖK4	0	5	0	0	3	0	0	0	0	4	0	0	0	0	0	0
ÖK5	4	0	0	5	0	0	5	0	0	0	0	0	0	0	0	0
ÖK6	3	3	0	5	0	0	5	0	0	0	0	0	0	0	0	0
ÖK7	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0
ÖK8	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0
ÖK9	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0
ÖK10	0	0	0	0	0	0	0	5	4	5	4	5	0	0	0	0
LO: Learning Objectives PQ: Program Qualifications																
Contribution Level:	1 very low		2 low		3 Medium		4 High		5 Very High							