PESTS OF FIELD CROPS

1	Course Title:	PESTS OF FIELD CROPS	
2	Course Code:	BTK4621-Z	
3	Type of Course:	Compulsory	
4	Level of Course:	First Cycle	
5	Year of Study:	4	
6	Semester:	7	
7	ECTS Credits Allocated:	4.00	
8	Theoretical (hour/week):	2.00	
9	Practice (hour/week):	2.00	
10	Laboratory (hour/week):	0	
11	Prerequisites:	It is recommended to be preferred by the students who succeed at the lesson of Entomology.	
12	Language:	Turkish	
13	Mode of Delivery:	Face to face	
14	Course Coordinator:	Prof. Dr. İSMAİL ALPER SUSURLUK	
15	Course Lecturers:		
16	Contact information of the Course Coordinator:	susurluk@uludag.edu.tr (0 224) 294 15 79 Uludağ Üniversitesi, Ziraat Fakültesi, Bitki Koruma Bölümü	
17	Website:		
18	Objective of the Course:	Recognition of pests of field crops and teaching of their control methods with regarded to plant protection.	
19	Contribution of the Course to Professional Development:	Graduates who take this course will have the potential to produce solutions since they have information about the pests encountered in field crop production.	
20	Learning Outcomes:		
		1	To recognize the most important species of pests of field crops in the world.
		2	To know features of most important species.
		3	To diagnose the most important pests of field crops.
		4	To suggest control methods of pests to producer.
		5	To know time of control against pests.
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		7	-
		8	-
		9	-
		10	-
21	Course Content:		

Course Content:

Week	Theoretical	Practice

1	About nematodes and parasitic nematodes on field crops are taught.	About Digestive system, excretory system, nervous system, reproduction system, growing, effectiveness of plants, moving ways of nematodes, methods of sampling of nematodes belong to class of Nematoda and Wheat gall nematode Anguina tritici, Root-knot nematode Meliodogyne spp., Stem nematode Ditylenchus dipsaci, The cereal cyst nematode Heterodera avenae, Sugar beet cyst nematode Heterodera schachtii, White tip nematode Aphelenchoides besseyi are given information. About mites which belong to order of Acarina given general information. A mite body is drawn and about belong to phylum of Penthaloidae Winter grain mite Penthaleus major is informed. Preparations and slides about these issues are scanned.
2	Species of mollusk, worm, mites which are detrimental on field crops and control methods of these pests are taught.	About Moroccan locust Dociostaurus maroccanus, The migratory locust Locusta maroccanus, Arcyptera labiata (Orthoptera: Acrididae) and Italian locust Calliptamus italicus (Orthoptera: Catantopidae) are given information and taught differences between these species.
3	Locusts species which are detrimental on field crops and their control methods are taught.	About İsophya spp., Poecilimon spp., Platycleis intermedia (Orthoptera:Tettigonidae) and Melanogryllus desertus, Oecantus pellucens (Orthoptera: Gryllidae) are given information.
4	Gryllotalpa gryllotalpa and Cephus pygmaeus, Trachelus tabidus, T. libanensis which are detrimental on field crops are recognized. Biology and control methods of these pests are taught.	About Eurygaster spp. are given information. In addition, differences of between species are lectured and drawn. Samples of Eurygaster spp. are scanned. A film about biology, injury types and control methods of Eurygaster spp. is watched.
5	Eurygaster integriceps, Aelia rostrata, Zabrus spp., Anisoplia spp. are recognized. Biology and control methods of these pests are taught.	About Aelia spp. (Heteroptera:Pentatomidae) is given information. Morphological differences of between species are lectured and drawn. Samples and slides of Aelia spp. are scanned.
6	Syringopais temperatella, Pachytychius hordei and Sesamia nonagrioides are recognized. Biology and control methods of these pests are taught.	About Porphyrophora tritici (Homoptera: Margarodidae), Zabrus spp.(Coleoptera: Carabidae), Anisoplia spp. Coleoptera:Scarabaeidae) are given information. Related slides and samples are scanned.
7	Ostrinia nubilalis and Bruchus spp. are recognized. Biology and control methods of these pests are taught.	About Pachytychius hordei (Coleoptera:Curculionidae), Phyllotreta spp (Coleoptera:Chrysomelidae), Agriotes spp. (Coleoptera: Elateridae) are given information. Related slides and samples are scanned.
8	Etiella zinckenella, Liriomyza cicerina, Stona crinitus and Hypera variabilis are recognized. Biology and control methods of these pests are taught.	About Tanymecus dilaticollis (Coleoptera.:Curculionidae), Ostrinia nubilalis (Lepidoptera:Pyralidae), Sesamia spp. (Lepidoptera Noctuidae), Agrotis spp. Lepidoptera Lepidoptera: Noctuidae), Spodoptera exiqua (Lepidoptera:Noctuidae) are given information. Related slides and samples are scanned.
9	Aphids and Tanymecus dilatticollis which are detrimental on field crops are recognized. Biology and control methods of these pests are taught.	About Syringopais temperatella (Lepidoptera: Scythridae), Cephus pygmaeus, Trachelus tabidus, T. libanensis (Hymenoptera:Cephidae) are given information. Related slides and samples are scanned.
10	Pests of cotton are recognized. Biology and control methods of these pests are taught.	About Callasobruchus maculatus, Acanthocelides obtectus, Bruchus ervi, Bruchus signaticornis, Bruchus lentis, Bruchus pisorum, Bruchus rufimanus (Coleoptera:Bruchidae) are given information. Related slides and samples are scanned.

11	Pests of sugar beet are recognized. Biology and control methods of these pests are taught.	About Etiella zinckenella (Lepidoptera:Pyralidae), Lampides boeticus(Lepidoptera:Lycaenidae), Sitona crinitus (Coleoptera:Curculionidae), Liriomyza cicerina (Diptera: Agromyzidae) are given information. Related slides and samples are scanned.
12	Pests of sunflowers, potato, tobacco, soybean and mouses are recognized. Biology and control methods of these pests are taught.	About Hypera variabilis (Coleoptera:Curculionidae), Gonioctena fornicata (Coleoptera:Chrysomelidae), Subcoccinella vigintiquatuorpunctata (Coleoptera: Coccinellidae), Bembecia scopigera (Lepidoptera: Sessidae), Sphenoptera carceli (Coleoptera: Buprestidae), Plagionotus floralis (Coleoptera:Cerambycidae) and Aphids which are detrimental on feed crops are given information. Related slides and samples are scanned.
13	Repeating courses and midterm exam	Practice Exam
14	-	-

22	Textbooks, References and/or Other Materials:	Zirai Mücadele Teknik Talimatları (Cilt1,6). Bitki Koruma Ürünleri
23	Assesment	

TERM LEARNING ACTIVITIES	**NUMBER**	**WEIGHT**
Midterm Exam	1	40.00
Quiz	0	0.00
Home work-project	0	0.00
Final Exam	1	60.00
Total	2	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		Assessment is made as 1 midterm and 1 final exam and evaluated with relative evaluation.

24 ECTS / WORK LOAD TABLE

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	6	6.00	36.00
Homeworks	0	0.00	0.00
Projects	0	0.00	0.00
Field Studies	0	0.00	0.00
Midterm exams	1	10.00	10.00
Others	0	0.00	0.00
Final Exams	1	15.00	15.00
Total Work Load			127.00
Total work load/ 30 hr			3.90
ECTS Credit of the Course			4.00

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	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ÖK2	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ÖK3	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ÖK4	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0
ÖK5	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0
ÖK6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ÖK7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ÖK8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ÖK9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ÖK10	0	0	0	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**				