



## AYDIN ADNAN MENDERES UNIVERSITY COURSE INFORMATION FORM

Course Title		Biological Control							
Course Code		ÇS004		Course Level		Short Cycle (Associate's Degree)			
ECTS Credit	3	Workload	75 (Hours)	Theory	2	Practice	0	Laboratory	0
Objectives of the Course		To learn biological control methods against to agricultural pest rather than chemical drugs.							
Course Content		History and definition of biological control, varieties, predators, parasitoids, parasites entomopathogenic viruses, bacteria, fungi, nematodes, protozoa, genetic engineering work, light traps, pheromones and advantages and disadvantages of biological control.							
Work Placement		N/A							
Planned Learning Activities and Teaching Methods				Explanation (Presentation), Discussion, Case Study					
Name of Lecturer(s)									

### Assessment Methods and Criteria

Method	Quantity	Percentage (%)
Midterm Examination	1	40
Final Examination	1	70

### Recommended or Required Reading

1	Gaugler, R., Lewis, E. and Stuart, R. J., 1997, Ecology in the service of biological control: the case of entomopathogenic nematodes. Oecologia. 109, 483-489.
2	Waterhouse, D. F., and Norris, K. R., 1987, Biological control Pacific prospects,Avustralian Centre for Int. Agr. Research . p. 454.
3	Demirbağ, Z., Nalçacıoğlu, R., Katı, H., Demir, İ., Sezen, K., Ertürk, Ö. 2008. Entomopatojenler ve Biyolojik Mücadele, Esen ofset matbaacılık, Trabzon, 325 s.

Week	Weekly Detailed Course Contents	
1	Theoretical	History and definition of biological control
2	Theoretical	Types of biological control
3	Theoretical	Predators
4	Theoretical	Parasitoids
5	Theoretical	Parasites
6	Theoretical	Entomopathogenic virus
7	Theoretical	Entomopathogenic bacteria
8	Theoretical	Midterm Exam
9	Theoretical	Entomopathogenic fungi
10	Theoretical	Entomopathogenic nematodes
11	Theoretical	Entomopathogenic protozoa
12	Theoretical	Genetic engineering studies
13	Theoretical	Light traps
14	Theoretical	Pheromones
15	Theoretical	Advantages and disadvantages of biological control

### Workload Calculation

Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	1	2	42
Assignment	1	4	8	12
Individual Work	1	4	1	5
Midterm Examination	1	6	1	7



Final Examination	1	8	1	9
Total Workload (Hours)				75
[Total Workload (Hours) / 25*] = ECTS				3
*25 hour workload is accepted as 1 ECTS				

### Learning Outcomes

1	1. To understand the importance and meaning of biological control
2	2. To learn the methods of biological control
3	3. To know the organisms used in biological control
4	Have knowledge about light traps and pheromones.
5	4. To learn advantages and disadvantages of biological control

### Programme Outcomes (Environmental Health)

1	They have the appropriate level of knowledge about the basic sciences which has an interaction with the environment and the environment itself.
2	They have gained the basic concepts, skills and qualifications in the Environmental health theoretical and practical lessons. And then they can establish the connections that are necessary to protect the environment and people's health in the light of these competencies.
3	They can use the approaches and the information of basic and applied research in different disciplines. They can follow the innovations and developments in their field, and have self-development competency with the terms of the day.
4	They know and apply the analysis methods used in the evaluation of environmental factors (drinking water, waste water treatment, air pollution, meteorological data, land values, food control, radiation measurement, etc.).
5	They have a professional and ethical consciousness, and have the ability to recognize the environmental problems and also can formulate a solution to these problems. They apply the gained knowledges and skills faced in real life situations, transfers the knowledge to individuals around, and wins the life-long learning behavior.
6	They are able to use their professional knowledge in their lives and behave sensitively toward the local and global environmental problems and effectively uses to the legislation and management tools the necessary for the solution.
7	Gained the ability to adapt the changing in a positive way themselves, to understand the core values and cultures of the society which are living. Sensitive to the universal and the social values, interests of the country, have adopted the concept of sustainable development, environmentally conscious, productive, behaves aware of the ethical and professional responsibility.
8	Provides a healthy interact of individual, society and the environment and take responsibility in the necessary situations for the continuity.
9	They gain the ecologically-based solving skills the problems and the delays that may arise in interaction with each other of living and nonliving environment. Interests of local and national, and Ecological and historical values of our country, and contribute to the protection and the development of them.
10	Exhibits the appropriate behaviours for the protection and the development of plants, animals, and inanimate environment, and the especially human health.
11	Knows the value of energy for life, recognizes the types of energy, and have conscious of the importance, using and dissemination of renewable energy sources.
12	Knows the properties of information and communication technologies, and uses them in the process efficiently and professionally.
13	They aware of the democracy, rule of law, human rights, the national and universal cultural characteristics, and sensitive towards to the nature, society and people.
14	Knows the importance of Atatürk's principles and reforms, make them a way of life.
15	Uses effectively the Turkish in speaking and writing.
16	Has at least one foreign language ability to be able to follow the knowledge in their profession and to communicate with colleagues.
17	To have the appropriate knowledge of medical sciences at the level of interest, to use specific medical terms and terminology of field

### Contribution of Learning Outcomes to Programme Outcomes 1:Very Low, 2:Low, 3:Medium, 4:High, 5:Very High

	L1	L2	L3	L4	L5
P1	5				
P4		4			
P6			4		
P8				5	5

