



AYDIN ADNAN MENDERES UNIVERSITY COURSE INFORMATION FORM

Course Title		Molecular Entomology							
Course Code		ZBY508		Course Level		Second Cycle (Master's Degree)			
ECTS Credit	8	Workload	200 (<i>Hours</i>)	Theory	3	Practice	0	Laboratory	0
Objectives of the Course		The aim of class, is to teach the usage of different methods used in molecular biology in the field of entomology.							
Course Content		DNA systems in insects, DNA construction in insects, genetic control of embryonic development in insects, cutting, adherence, copying and measurement of DNA, applications of PCR technique in entomology, vector systems used in gene transfer to insects, sex discrimination and sex change in beetles use of molecular techniques - Molecular basis of insect behavior, - Use of molecular methods in insect taxonomy, - Population ecology and molecular genetics, - Use of transgenic harmful and beneficial insects in the battle with harmful insects.							
Work Placement		N/A							
Planned Learning Activities and Teaching Methods				Explanation (Presentation), Demonstration, Discussion, Project Based Study					
Name of Lecturer(s)		Prof. Eyyüp Mennan YILDIRIM							

Assessment Methods and Criteria

Method	Quantity	Percentage (%)
Midterm Examination	1	40
Final Examination	1	60

Recommended or Required Reading

1	Gilbert L., 2011. Insect Molecular Biology and Biochemistry, Academic Press.
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Week	Weekly Detailed Course Contents	
1	Theoretical	Genetics and DNA replication in insects
2	Theoretical	DNA structures in insects
3	Theoretical	Embryonic development in insects
4	Theoretical	Cutting, copying of DNA
5	Theoretical	Molecular techniques
6	Theoretical	Applications of PCR technique in entomology
7	Theoretical	Gene transfer to insects
8	Intermediate Exam	Midterm
9	Theoretical	Use of molecular techniques in gender discrimination and sex change in insects
10	Theoretical	Molecular bases of insect behavior
11	Theoretical	Use of molecular techniques in insect systems
12	Theoretical	Population ecology and molecular genetics
13	Theoretical	Use of harmful and useful insects
14	Theoretical	Introduction to transgenic insects
15	Theoretical	Overview
16	Final Exam	Final Exam

Workload Calculation

Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	10	3	182
Midterm Examination	1	8	1	9
Final Examination	1	8	1	9
Total Workload (Hours)				200
[Total Workload (Hours) / 25*] = ECTS				8
*25 hour workload is accepted as 1 ECTS				



Learning Outcomes

1	Teaching DNA replication in insects
2	Teaching of gene transfer in insects
3	Giving information about the genes used in insect phylogeny
4	Understanding of application principles of different molecular techniques in insects
5	Have knowledge about transgenic insects

Programme Outcomes (Agricultural Biotechnology Master)

1	Students learn various techniques and evaluates resources about agricultural biotechnology
2	Make the necessary projects in agricultural biotechnology and to conduct a study of the basic level independently
3	Students learns how to conduct a scientific research and prepares themselves for the scientists in the direction of their ideals.
4	Students may reveal new ideas in social and scientific issues and can benefit from the ideas and produce something new winning independent and teamwork skills.
5	Students can use its products for the benefit of humanity, they can produce technology and collaborate with industry

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	5	4	5	4
P2	5	5	4	5	5
P3	5	5	4	5	5
P4	4	4	3	5	4
P5	2	4	3	4	4

