



AYDIN ADNAN MENDERES UNIVERSITY COURSE INFORMATION FORM

Course Title		The Anatomy and Physiology of the Honey Bee							
Course Code		AR122		Couse Level		Short Cycle (Associate's Degree)			
ECTS Credit	4	Workload	101 (<i>Hours</i>)	Theory	3	Practice	0	Laboratory	0
Objectives of the Course		Teaching of basic knowledge about morphology, physiology, development and mutations of bees and associated of this subject with bee breeding.							
Course Content		Bee eggs, fertilization, embryo development, metamorphism, structure and properties of the skin, respiratory, circulatory, excretory, reproductive, digestive system and the morphology and physiology of sensory organs and the secretory glands							
Work Placement		N/A							
Planned Learning Activities and Teaching Methods				Explanation (Presentation), Discussion, Case Study, Individual 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	Uygulamalı Arıcılık. Enver ÖDER
2	Bal arısı biyolojisi ve yetiştiriciliği. Doç. Dr. Sibel SİLİCİ
3	Modern arıcılık teknikleri. Muhsin DOĞAROĞLU

Week	Weekly Detailed Course Contents	
1	Theoretical	Honey bees skin structure
	Practice	Field and laboratory work
2	Theoretical	Head of honeybees and its extensions
	Practice	Field and laboratory work
3	Theoretical	Honey bees mouth parts
	Practice	Field and laboratory work
4	Theoretical	The structure of neck, thorax and legs in honeybees
	Practice	Field and laboratory work
5	Theoretical	The wings and wing movements
	Practice	Field and laboratory work
6	Theoretical	Abdominal segments and extensions
	Practice	Field and laboratory work
7	Theoretical	Feeding bees
	Practice	Field and laboratory work
8	Intermediate Exam	Midterm exam
9	Theoretical	Digestive and excretory systems
	Practice	Field and laboratory work
10	Theoretical	Respiratory system
	Practice	Field and laboratory work
11	Theoretical	Nervous system and sensory organs
	Practice	Field and laboratory work
12	Theoretical	Circulatory system and endocrine glands
	Practice	Field and laboratory work
13	Theoretical	Reproductive system and proliferation
	Practice	Field and laboratory work
14	Theoretical	Embryo development
	Practice	Field and laboratory work



15	Theoretical	Development after embryo , diapause
	Practice	Field and laboratory work
16	Final Exam	Final exam

Workload Calculation

Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	3	0	14	42
Assignment	2	0	6	12
Studio Work	1	0	5	5
Land Work	1	0	5	5
Reading	5	0	5	25
Midterm Examination	1	5	1	6
Final Examination	1	5	1	6
Total Workload (Hours)				101
[Total Workload (Hours) / 25*] = ECTS				4
*25 hour workload is accepted as 1 ECTS				

Learning Outcomes

1	To be able to get information about morphology, physiology and development of bees
2	To be able to comprehend the importance and effect of bee morphology, physiology and development in terms of beekeeping

Programme Outcomes (Apiculture)

1	Understand to bee family (ecology, behavior), needs and diseases of bees. To make needs for healthy colony.
2	Produce of bee and bee products with modern techniques
3	Understand and use of tools and equipments used in Apiculture
4	Understand to nectar and pollen vegetables
5	To know nomadic apiculture conditions
6	Packing of bee products
7	Application to hygienic rules in apiculture enterprise
8	To have information of professional ethics and responsibility
9	Ability to work in team and individual
10	To communicate orally and in writing

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

	L1	L2
P1	5	5
P2	2	2
P3	3	3
P4	2	3
P5	2	2
P8	3	3
P9	3	3
P10	3	3

