QUEEN REARING AND PACKAGE BEEKEEPING

1	Course Title:	QUEEN REARING AND PACKAGE BEEKEEPING
2	Course Code:	ZOO4424-S
3	Type of Course:	Optional
4	Level of Course:	First Cycle
5	Year of Study:	4
6	Semester:	8
7	ECTS Credits Allocated:	3.00
8	Theoretical (hour/week):	1.00
9	Practice (hour/week):	2.00
10	Laboratory (hour/week):	0
11	Prerequisites:	Beekeeping
12	Language:	Turkish
13	Mode of Delivery:	Face to face
14	Course Coordinator:	Prof. Dr. İbrahim Çakmak
15	Course Lecturers:	Yok
16	Contact information of the Course Coordinator:	Bursa Uludağ Üniversitesi Ziraat Fakültesi Zootekni Bölümü Görükle- Bursa icakmak@uludag.edu.tr Tel: 224 294 1465
17	Website:	
18	Objective of the Course:	To gain basic knowledge and applications about queen bee and package beekeeping
19	Contribution of the Course to Professional Development:	The contribution of the course to the professional development of the students is to gain basic knowledge and skills about queen bee and package beekeeping and to ensure that they have the knowledge to establish a business in this field when they graduate.
20	Learning Outcomes:	
	1	Learning the equipment and materials used in queen and package beekeeping,
	2	Learning the biology and life cycle of queen bee rearing,
	3	Learning queen health and pheromones,
	4	Learning the health of queen and bees in package beekeeping,
	5	Learning transportation and important criteria in package beekeeping.
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21	Course Content:	

Course Content:

Week	Theoretical	Practice
1	Studies on queen bees and package beekeeping in the world	
2		Equipment used in queen bee and package beekeeping-1
3		Equipment used in queen bee and package beekeeping-2

4	Queen bees and bee races and their characteristics	
5	Life cycles of queen bees, pheromones and their functions in the hive	
6		Health of queen bee-1
7		Health of queen bees-2
8		Treatment process of queen bees
9	Life cycles of queen bees, pheromones	
10		Artificial insemination and natural reproduction in queen bees-1
11		Artificial insemination and natural reproduction in queen bees-2
12		Bee health for package beekeeping
13		How the queen bee should be given to the colony to be used in package beekeeping
14		Transport and important criteria for package beekeeping

22	Textbooks, References and/or Other Materials:	Caron, D. 2000. Honey bee biology and beekeeping. Wicwas Press, New York. Rinderer, T. 1986. Bee genetics and breeding. Acdemic Press. Ruttner, F. 1988. Biogeography and Taxonomy of Honeybees, 3-34, Springer, Berlin. Sammataro, D., and Avitabile, A. 2011. The Beekeeper's Handbook, 214-221, Cornell University Press, London. Sarıöz, R. 2006. Dünden bugüne Türkiye'de arıcılık. Stil Matbaacılık, Ankara. Winston, M. 1987. Honey bee biology. Harvard University Press.

Activites	Number	Duration (hour)	Total Work Load (hour)
Theoretical	14	1.00	14.00
Practicals/Labs	14	2.00	28.00
Self study and preparation	2	20.00	40.00
Homeworks	0	0.00	0.00
Projects	0	0.00	0.00
Field Studies	0	0.00	0.00
Midterm exams	1	1.00	1.00
Others	0	0.00	0.00
Final Exams	1	1.00	1.00
Total Work Load			85.00
Total work load/ 30 hr			2.80
ECTS Credit of the Course			3.00

TERM LEARNING ACTIVITIES	NUMBE	WEIGHT
Midterm Exam	1	40.00
Quiz	1	30.00
Home work-project	0	0.00
Final Exam	1	30.00
Total	3	100.00
Contribution of Term (Year) Learning Activities to		70.00
Contribution of Final Exam to Success Grade		30.00
Total		100.00

Measurement and Evaluation Techniques Used in the Course	This course will be measured and evaluated by one visa and final standard exam.

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	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0
ÖK2	0	0	0	0	0	0	0	0	0	0	0	4	5	0	0	0

ÖK3	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0
ÖK4	0	0	0	0	0	0	0	0	0	0	4	0	4	0	0	0
ÖK5	0	0	0	0	0	0	0	0	0	0	3	4	0	0	0	0

LO: Learning Objectives PQ: Program Qualifications

Contribution Level:	**1 very low**	**2 low**	**3 Medium**	**4 High**	**5 Very High**