POWDER BIOLOGY

1	Course Title:	POWDER BIOLOGY	
2	Course Code:	BYL4131	
3	Type of Course:	Optional	
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):	0.00	
10	Laboratory (hour/week):	0	
11	Prerequisites:	NONE	
12	Language:	Turkish	
13	Mode of Delivery:	Face to face	
14	Course Coordinator:	Doç. Dr. Aycan Tosunoğlu	
15	Course Lecturers:		
16	Contact information of the Course Coordinator:	Uludağ Üniversitesi Fen-Edebiyat Fakültesi Biyoloji Bölümü, Görükle Kampüsü, Nilüfer/BURSA 16059 aycanbilisik@uludag.edu.tr 0224.2941854	
17	Website:		
18	Objective of the Course:	The aim of the course is to provide the student with versatile information about the Pollination Biology of Flowering Plants and to gain different perspectives.	
19	Contribution of the Course to Professional Development:		
20	Learning Outcomes:		
		1	To understand the pollination phenomenon in plants
		2	To understand the plant-pollinator relationships
		3	To understand the basics of evolution and diversity in flowers
		4	To understand pollination vectors
		5	To understand pollinator behavior
		6	To understand the importance of pollination in terms of health and economy
		7	
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21	Course Content:		

Course Content:

Week	Theoretical	Practice
1	Introduction to Pollination Biology	
2	Flower structure, life cycle in flowering plants	
3	Fertilisation and Sterility	

4	Flowers, Pollination and Evolution; coevolution, mutualism, adaptation, natural selection	
5	Flowers and Diversity; flaunt, signals, awards, mimicry	
6	Diversity and evolution of pollinators	
7	Abiotic pollination (water and wind)	
8	Biotic pollination: Evolution of zoogamy and differentiation of pollination systems	
9	Different forms of zoogamy (insects)	
10	Different forms of zoogamy (birds, mammals)	
11	Pollination, foraging economy, feeding behavior, foraging strategies, marking, communication	
12	Pollination syndrome, biodiversity and conservation of endangered species	
13	The importance of plant pollination for human health	
14	Economic importance of plant pollination, plant phenology, habitat use, commercial pollination services, climate change, pesticide / herbicide use, pollinator pathogens	

22	Textbooks, References and/or Other Materials:	D. P. Abrol. 2011. Pollination Biology: Biodiversity Conservation and Agricultural Production. Springer Science & Business Media H.H, Karaytuğ S., Güncüz İ. 2002. Evrimsel Analiz. DEU Publishing,UK

Activites	Number	Duration (hour)	Total Work Load (hour)
Theoretical	14	2.00	28.00
Practicals/Labs	0	0.00	0.00
Self study and preperation	14	4.00	56.00
Homeworks	1	16.00	16.00
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	10.00	10.00
Total Work Load			120.00
Total work load/ 30 hr	3	100.00	4.00
ECTS Credit of the Course			4.00

25	Assesment		
TERM LEARNING ACTIVITIES	**NUMBE**	**WEIGHT**	
Midterm Exam	1	30	
Home work project	1	10	
Final Exams	1	60	
Success Grade			
Contribution of Final Exam to Success Grade		60.00	
Total		100.00	
Measurement and Evaluation Techniques Used in the Course			

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	5	3	4	4	0	0	0	0	0	0	0	4	0	0	0	0

ÖK2	5	3	4	4	0	0	0	0	0	3	0	4	0	0	0	0
ÖK3	5	3	4	4	0	0	0	0	0	3	4	4	0	0	0	0
ÖK4	5	3	4	4	4	0	4	4	0	3	4	4	0	0	0	0
ÖK5	5	3	4	4	4	3	4	4	0	3	4	4	0	0	0	0
ÖK6	5	3	4	4	4	4	4	4	0	3	4	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**