EXPERIMENTAL DESIGN AND APPLICATION IN BIOLOGY

1	Course Title:	EXPERIMENTAL DESIGN AND APPLICATION IN BIOLOGY
2	Course Code:	FEN4101
3	Type of Course:	Optional
4	Level of Course:	First Cycle
5	Year of Study:	4
6	Semester:	7
7	ECTS Credits Allocated:	6.00
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:	Dr. Ögr. Üyesi YETER ŞİMŞEKLİ
15	Course Lecturers:	
16	Contact information of the Course Coordinator:	ysimsekli@uludag.edu.tr, 2942290, U.Ü.Eğ.Fak.FBE ABD
17	Website:	
18	Objective of the Course:	Students to gain skills in designing and application Biologycal experiments.
19	Contribution of the Course to Professional Development:	
20	Learning Outcomes:	

	1	Realizes the importance of doing experiments in Biology education
	2	Knows what kind of experimental method and variety using in laboratory
	3	To be able to determine objectives of experiments. Choosing the right material using in the experiment
	4	Reports the outcome of an experiment
	5	Designs experiments using simple material about Biology topic
	6	Designs physical facilities of the laboratory according to instructional purposes
	7	
	8	
	9	
	10	

21	Course Content:

Course Content:

Week	Theoretical	Practice
1	Try the place and importance of Teaching Biology	
2	Approaches and types of laboratory experiments	
3	The test method and relationship education programs	

4	Experimental preparation of leaf	
5	Test and recovery for the purpose of determining	
6	Experiment to determine the tools and devices	
7	Cheap and waste material, tool-making equipments	
8	Types of laboratory regulation	
9	The process of conducting experiments and collecting data	
10	Experimental results and judgment process of discussion	
11	Computer-aided design of experiments	
12	Sample experiment design for the Biologycal Sciences	
13	Sample experiment design for the Biologycal Sciences	
14	Sample experiment design for the Biologycal Sciences	

22	Textbooks, References and/or Other Materials:	1-Rezba, R. J., Fiel R. L., Funk H. J., Learning and Assessing Science Proces Skill. Third Edition 1995 2-Keeton, W.T., Gould, J.l., Gould, C.G.,Genel Biyoloji , Palme Yayıncılık, Ankara, 2000.(Çeviri editörleri Ali Demirsoy, İsmail Türkan, Ertunç Gündüz) 3-Kesercioğlu, T., Biyoloji Uygulamaları II , Anı Yayıncılık, 6-Özmen Haluk, Yiğit Nevzat, Fen Bilgisi Öğretiminde Laboratuar Kullanımı, Anı Yayıncılık, Ankara, 2005 Laboratuvar Uygulamaları, Pegem A Yayınları 8-Andaç O., Hücre Fizyolojisi, H.Ü. Yayınları, Ankara 9-Kocabaş A., EKOLOJİ Çevre Biyolojisi, Ege Üniversitesi basımevi, İZMİR

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	10	5.00	50.00
Projects	0	0.00	0.00
Field Studies	0	0.00	0.00
Midterm Exams	0	0.00	0.00
Others	1	20.00	20.00
Final Exams	1	30.00	30.00
Total Work Load			184.00
Total work load/ 30 hr			6.13
ECTS Credit of the Course			6.00

TERM LEARNING ACTIVITIES	**NUMBE**	**WEIGHT**
Midterm Exam	0	0.00
Home work-project	1	20.00
Total	3	100.00
Contribution of Term (Year) Learning Activities to Success Grade		50.00
Contribution of Final Exam to Success Grade		50.00
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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ÖK2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ÖK3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ÖK4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ÖK5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ÖK6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LO: Learning Objectives PQ: Program Qualifications																
Contribution Level:	**1 very low**		**2 low**			**3 Medium**			**4 High**				**5 Very High**			