

SCIENCE AND TECHNOLOGY LAB APPLICATIONS II

1	Course Title:	SCIENCE AND TECHNOLOGY LAB APPLICATIONS II
2	Course Code:	FEN2022
3	Type of Course:	Compulsory
4	Level of Course:	First Cycle
5	Year of Study:	2
6	Semester:	4
7	ECTS Credits Allocated:	2.00
8	Theoretical (hour/week):	0.00
9	Practice (hour/week):	2.00
10	Laboratory (hour/week):	1
11	Prerequisites:	
12	Language:	Turkish
13	Mode of Delivery:	Face to face
14	Course Coordinator:	Doç. Dr. DİLEK ZEREN ÖZER
15	Course Lecturers:	Yrd. Doç. Dr. MUSTAFA AKILLI
16	Contact information of the Course Coordinator:	Adres: Uludağ Üniv. Eğitim Fak. Matematik ve Fen Bilimleri Eğitimi Bölümü Fen Bilimleri Eğitimi Anabilim Dalı Görükle/BURSA dzeren@uludag.edu.tr 0-224-2942254
17	Website:	
18	Objective of the Course:	Laboratory experiments for primary education level 1 (planning, conducting and evaluation of experiment results). Preparation of experimental work sheets and test report. Experimental samples that can be made with simple and inexpensive materials, group studies.
19	Contribution of the Course to Professional Development:	
20	Learning Outcomes:	
	1	Ability to develop group work skills.
	2	to be able to prepare experimental setups for the field.
	3	to be able to recognize experimental instruments in science laboratory.
	4	to be able to design experiments related to science.
	5	to be able to apply experiments related to science successfully.
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21	Course Content:	
	Course Content:	
Week	Theoretical	Practice

1		• Course Introduction • Laboratory rules • use of the laboratory • Introduction of laboratory tools • Laboratory safety • First aid
2		Activity 1: A simple electric circuit Activity 2: Are all materials electrically conductive
3		Activity 1: Validating working principles of compound containers Activity 2: Outdoor pressure
4		Activity 1: Acids and bases Activity 2: Preparing an acid indicator
5		Activity 1: Examination of the densities of different substances Activity 2: Viscosity
6		Activity 5: Osmosis in living cells Activity 6: Plasmolysis in the onion cell Activity 7: Let's examine the bacteria
7		Activity 1: Function of the cell membrane Activity 2: Change the permeability of the cell membrane
8		Activity 1: Magnet iron powder extraction Activity 2: Determine which items are attracted by the magnet and not drawn Activity 3: Does the magnet influence the environment?
9		Activity 1: Surface area and temperature Activity 2: Catalase experiment

Activites	Number	Duration (hour)	Total Work Load (hour)
Theoretical	12	0.00	0.00
Practicals/Labs	14	3.00	42.00
Self study and preperation	14	0.00	0.00
Homeworks	1	10.00	10.00
Projects	0	0.00	0.00
Textbooks, References and/or Other	1	0.00	0.00
Field Studies	0	0.00	0.00
Midterm exams	3	1.00	1.00
Others	0	0.00	0.00
Final Exams	4	1.00	1.00
Total Work Load			54.00
Total work load/ 30 hr			1.80
ECTS Credit of the Course			2.00

		7.J.Vancleace., 203 Experiments, John Wiley& Sons, 1999. 8-Özmen, H., Yiğit, N., Teoriden Uygulamaya Fen Bilgisi Öğretiminde Laboratuvar Kullanımı, Anı Yayıncılık, ANKARA, 2005. 9.Erbaş, S., Ergül, R., Şimşekli, Y., Özdilek, Z. Okul Öncesi Dönemde Fen Öğretimi. 2002, Bursa. 10.Aydoğdu, M., Doğru, M., Ünsal, Y., Meriç, G., Uşak, M., Fen Bilgisi Laboratuvar Uygulamaları, Pegem A Yayıncılık,2004. 11.Bahar, M., Aydın, F., Polat, M., Bertiz, H., Fen ve Teknoloji Laboratuvar Uygulamaları 1-2, PEGEM A, 2008. 12.Güneş, T., Güneş, M.H., Çelikler, D., Demir, S., fen Bilgisi Laboratuvar Deneyleri, Anı Yayıncılık, ANKARA, 2005. 13-Biyoloji Öğretimi , YÖK.Dünya Bankası Milli Eğ. Gel. Proj. Hiz. Ön. Eğ.
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23	Assesment	
TERM LEARNING ACTIVITIES	NUMBE R	WEIGHT
Midterm Exam	1	30.00
Quiz	0	0.00
Home work-project	1	10.00
Final Exam	1	60.00
Total	3	100.00
Contribution of Term (Year) Learning Activities to Success Grade		40.00
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
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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	5	3	5	5	5	0	0	5	5	5	5	3	5	5	4
ÖK2	5	5	5	5	5	5	0	0	5	5	0	4	5	5	5	5
ÖK3	5	5	5	5	5	5	0	0	5	5	0	5	5	5	5	5
ÖK4	5	5	5	5	5	5	0	0	5	5	0	5	5	5	5	5
ÖK5	5	5	5	5	5	4	0	0	5	5	0	5	5	5	5	5
LO: Learning Objectives PQ: Program Qualifications																
Contribution Level:	1 very low		2 low		3 Medium		4 High		5 Very High							