SCIENCE LAB. APPLICATION I

1	Course Title:	SCIENCE LAB. APPLICATION I	
2	Course Code:	FEN3005	
3	Type of Course:	Compulsory	
4	Level of Course:	First Cycle	
5	Year of Study:	3	
6	Semester:	5	
7	ECTS Credits Allocated:	4.00	
8	Theoretical (hour/week):	2.00	
9	Practice (hour/week):	2.00	
10	Laboratory (hour/week):	0	
11	Prerequisites:	None	
12	Language:	Turkish	
13	Mode of Delivery:	Face to face	
14	Course Coordinator:	Doç. Dr. DİLEK ZEREN ÖZER	
15	Course Lecturers:	Doç.Dr.Zehra ÖZDİLEK	
16	Contact information of the Course Coordinator:	Adres: Uludağ Ünv. 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:	The importance and importance of laboratory in science education: The history of teaching with laboratory, the place of laboratory studies in science and technology program. Scientific methods and scientific process skills: types of experiments, experiment design and development, scientific process skills and how they are gained. Measurement and error: reliability, validity, sources of error, error calculations. Experimental worksheets and experiment report: types of worksheets, preparing worksheets, designing and developing experiments. Measurement and evaluation in the laboratory: evaluation methods and tools	
19	Contribution of the Course to Professional Development:		
20	Learning Outcomes:		
		1	design and implement open and closed ended experiments in the laboratory
		2	able to discuss and report experimental results
		3	having knowledge and skills for laboratory use
		4	learn constructivist learning theory and application models and apply them to class
		5	To be able to make activities for physics, biology and chemistry concepts
		6	
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21	Course Content:		
	Course Content:		

Week	Theoretical	Practice
1	The Importance of Science Laboratory and its Place in the Program The Importance of Science Laboratory, Laboratory Studies in Science Program	Preparing a sample test report
2	Scientific Laboratory Equipment Recognition and Safety, Introduction of Science Laboratory Instruments, Safety Precautions	Examples of experiments that can be done with different tools and tools
3	Scientific Method and Process Skills Scientific Method And Acquisition of Scientific Process Skills, Communication Build-Measure-Predictive-Inference Making Ability.	Example Activities
4	152/5000 Scientific Method And Process Skills Scientific Method And Acquisition of Scientific Process Skills, Communication Build-Measure-Predictive-Inference Making Ability.	Example Activities
5	Scientific Method And Process Skills Scientific Method And Acquisition of Scientific Process Skills, Data Interpretation-Experimentation, Hypothesis Determination, Changing Variables. Operational Description.	Example Activities
7	Laboratory Approaches in Science Teaching, Types: Open-ended experiments.	Example Activities
8	Laboratory Approaches in Science Teaching, Experiment	Example Activities
9	Laboratory Approaches in Science Teaching deductive	Example Activities
10	Experiment by using science and technology	Example Activities
11	Laboratory Approaches in Science Teaching	Example Activities
12	Assessment and Evaluation in Laboratory methods and tools	Example Activities
13	Assessment and Evaluation in Laboratory methods and tools	Example Activities
14	Organization in Science Laboratory, Duties Distribution of Laboratory Studies and Application of Collaborative Learning.	Example Activities

Activites	Number	Duration (hour)	Total Work Load (hour)
Theoretical			
Practicals/Labs			
Self study and preperation			
Homeworks			
Projects			
Field Studies			
Midterm Exams			
Others			
Final Exams			
Total Work Load			
Total work load/ 30 hr			
ECTS Credit of the Course			4.00

22	Textbooks, References and/or Other Materials:	MEB (2007) İlköğretim 6-7-8 Fen ve Teknoloji Dersi Öğretim Programı MEB (2013) Ortaokul 5- 6-7-8 Fen Bilimleri Dersi Öğretim Programı MEB (2017) Ortaokul 5- 6-7-8 Fen Bilimleri Dersi Öğretim Programı Çapni, S. (2011) Fen ve Teknoloji Laboratuvar Uygulamaları I Pegem Yayıncılık Çepni, S. (2011) Fen ve Teknoloji Laboratuvar Uygulamaları II Pegem Yayıncılık
23	Assesment	

TERM LEARNING ACTIVITIES	**NUMBER**	**WEIGHT**
Midterm Exam	1	20.00
Quiz	0	0.00
Home work-project	1	20.00
Final Exam		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

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