

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 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:	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
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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		
Activites		Number	Duration (hour)	Total Work Load (hour)
7	Theoretical Laboratory Approaches in Science Teaching,	Example Activities		
Practicals/Labs				
8	Self study and preparation	Example Activities		
Homeworks				
9	Projects Laboratory Approaches in Science Teaching, Experiment			
Field Studies				
9	Midterm Exams Laboratory Approaches in Science Teaching Inductive	Example Activities		
Others				
10	Final Exam Experiment by using science and technology	Example Activities		
Total Work Load				
11	Total work load/ 30 hr Laboratory Approaches in Science Teaching	Example Activities		
ECTS Credit of the Course				4.00
	approaches			
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		

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
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23	Assesment
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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
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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	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			