CHEMISTRY LABORATORYI III

1	Course Title:	CHEMISTRY LABORATORYI III	
2	Course Code:	FEN2213	
3	Type of Course:	Compulsory	
4	Level of Course:	First Cycle	
5	Year of Study:	2	
6	Semester:	3	
7	ECTS Credits Allocated:	2.00	
8	Theoretical (hour/week):	0.00	
9	Practice (hour/week):	0.00	
10	Laboratory (hour/week):	2	
11	Prerequisites:	None	
12	Language:	Turkish	
13	Mode of Delivery:	Face to face	
14	Course Coordinator:	Prof. Dr. BELGİN İZGİ	
15	Course Lecturers:	Prof. Dr. M. Haluk TÜRKDEMİR Prof. Dr. Elif TÜMAY ÖZER Prof. Saliha ŞAHİN Doç. Dr. Ümran SEVEN ERDEMİR Doç. Dr. Önder AYBASTIER	
16	Contact information of the Course Coordinator:	Prof. Dr. Belgin İZGİ belgin@uludag.edu.tr Bursa Uludağ üniversitesi Fen-Edebiyat Fakültesi Kİmya Bölümü, Analitik Kimya ABD. 16059 BURSA	
17	Website:		
18	Objective of the Course:	To teach the principles of gravimetric and volumetric analysis methods from quantitative (quantitative) chemical analyzes and to gain the ability to apply them in the laboratory.	
19	Contribution of the Course to Professional Development:	Students gain the ability to apply quantitative chemical analysis. He can use this knowledge as a teacher in the future.	
20	Learning Outcomes:		
		1	Knows and can apply volumetric analysis methods in the laboratory.
		2	It can prepare and titrate standard (adjusted) solutions.
		3	Can apply an analysis method in the laboratory.
		4	Can make calculations related to chemical analysis and examine the results.
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21	Course Content:		
	Course Content:		
Week	Theoretical	Practice	

1		Giving basic information about OHS in the laboratory and laboratory,
2		Performing accuracy and precision measurements of the glass materials used (material calibration)
3		Preparation of solution and related indicators
4		Strong Acid-Strong Base Titrations
5		Weak Acid-Strong Base Titrations
6		Weak Base-Strong Acid Titrations
7		Determination of hardness in water with EDTA
8		Determination of hardness in water samples brought to the laboratory (lake, river, dam etc) with EDTA
9		Precipitation titrations and application (salt determination in brine, etc.)
10		Giving basic information of redox titrations, preparation of buffer solution
11		Determination of vitamin C by iodometric titration
12		Ni determination by gravimetric analysis
13		Distribution of the obtained data according to student groups and statistical comparison of standardization data
14		Distribution of the obtained data according to student groups and statistical comparison of standardization data

22	Textbooks, References and/or Other Materials:	1) Skoog, West, Holler, çeviri editörleri (Prof.Dr.E.Kılıç, Prof.Dr.F.Köseoğlu), 1996 “Analitik Kimya” Cilt 1. ve 2. 5) Daniel C.Harris, çeviri editörleri (Prof.Dr.G.Somer), 1994 "Analitik Kimya" kitabı Chemistry" 7) T.P. Hadjiioannou, G.D. Christian, C. E. Efstathiou, D.P. 8) R.Kellner, J.M. Mermet, M.Otto, H.M. Widmer, 1997 "Analytical Chemistry" Quantitative Inorganic Analysis

Activites	Number	Duration (hour)	Total Work Load (hour)
Theoretical	0	0.00	0.00
Practicals/Labs	14	2.00	28.00
Self study and preperation	12	1.00	12.00
Homeworks	12	1.00	12.00
Projects	0	0.00	0.00
Field Studies	0	0.00	0.00
Midterm exams	1	0.00	0.00
Others	0	0.00	0.00
Final Exams	1	4.00	4.00
Total Work Load			56.00
Total work load/ 30 hr			1.87
ECTS Credit of the Course			2.00

23 Assessment		
TERM LEARNING ACTIVITIES	**NUMBER**	**WEIGHT**
Quiz	1	20.00
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		Validation approach inductive approach Cognitive process skills approach Technical skills approach
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	0	0	5	5	0	0	0	5	5	0	0	0	0	0	0
ÖK2	5	0	0	5	5	0	0	0	5	5	0	0	0	0	0	0
ÖK3	5	0	0	5	5	0	0	0	5	5	0	0	0	0	0	0
ÖK4	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**				