ANALYTICAL CHEMISTRY

1	Course Title:	ANALYTICAL CHEMISTRY	
2	Course Code:	TPR2902	
3	Type of Course:	Compulsory	
4	Level of Course:	First Cycle	
5	Year of Study:	2	
6	Semester:	4	
7	ECTS Credits Allocated:	3.00	
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:	Dr. Ögr. Üyesi SERHAT GÜREL	
15	Course Lecturers:	Dr. Öğr. Üyesi Serhat GÜREL	
16	Contact information of the Course Coordinator:	sgurel@uludag.edu.tr 0 224 2941545 Bursa Uludağ Üniversitesi Ziraat Fakültesi Toprak Bilimi ve Bitki Besleme Bölümü	
17	Website:		
18	Objective of the Course:	To gain the ability to apply some basic chemical analysis. To teach the basic principles of chemical analysis, and analyze methods to students studying in the various branches of agriculture.	
19	Contribution of the Course to Professional Development:	An ability to use the theoretical and applied knowledge acquired in the field of mathematics, science and chemistry. To solve unforeseen problems encountered in practice. Competence to offer solutions to problems Competence in collecting, interpreting, announcing and applying data related to the field of chemistry.	
20	Learning Outcomes:		
		1	To recognize chemical analysis and the analyze methods used in agriculture.
		2	To practice the basic principles of chemical analysis without difficulty
		3	To discuss their differences using a variety of methods for chemical analysis
		4	To know the error sources of chemical analysis
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21	Course Content:		

Course Content:

Week	Theoretical	Practice
1	The definition of analytical chemistry	Presentation of the laboratory

2	Reagents and solution concentrations	Presentation of the laboratory safety measure
3	Percentage, Molar, Molal, Normal and ppm types of solutions	Preparation of the percent solution
4	Chemical equilibrium	Preparation of the Molar solution
5	Definitions of acid and base were performed	Preparation of the Molal solution
6	Calculations related to the pH of acids and bases	Preparation of the Normal solution.
7	Hydrolysis.	Preparation of the ppm solution
8	The buffering mechanism	Preparation of the acid solution
9	Overall evaluation, Mid-term exam	Buffer solutions
10	Buffer solutions	Preparation of the standard solution
11	The standard solutions	The practice of acid-base titrations
12	Acid-base titrations	The practice of redox potential
13	Redox potential	The practice of redox reactions
14	Redox reactions	Overall evaluation, Practicals Exam
22	Textbooks, References and/or Other Materials:	Özgümüş A. 1990. Analitik Kimya-I. Uludag Universty Agriculture Faculty Course Grades, No.43, Bursa.
23	Assesment	

TERM LEARNING ACTIVITIES	**NUMBER**	**WEIGHT**
Midterm Exam	1	40.00
Theoretical	2	100.00
Total		100.00
Success Grade		
Course		

Activites	Number	Duration (hour)	Total Work Load (hour)
Theoretical	14	2.00	28.00
Practicals/Labs	14	2.00	28.00
Self study and preperation	4	1.00	4.00
Homeworks	0	0.00	0.00
Projects	1	10.00	10.00
Field Studies	0	0.00	0.00
Midterm exams	1	10.00	10.00
Others	0	0.00	0.00
Final Exams	1	10.00	10.00
Total Work Load			90.00
Total work load/ 30 hr			3.00
ECTS Credit of the Course			3.00

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	1	3	5	3	0	0	1	1	3	2	1	1	0	0	0	0
ÖK2	1	3	5	4	0	0	0	0	2	5	0	1	0	0	0	0
ÖK3	0	2	4	4	0	0	2	2	2	3	0	0	0	0	0	0
ÖK4	0	3	2	3	0	0	0	1	1	5	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