

SAMPLE PREPARATION METHODS IN ANALYTICAL CHEMISTRY

1	Course Title:	SAMPLE PREPARATION METHODS IN ANALYTICAL CHEMISTRY	
2	Course Code:	KIM5007	
3	Type of Course:	Optional	
4	Level of Course:	Second Cycle	
5	Year of Study:	1	
6	Semester:	1	
7	ECTS Credits Allocated:	6.00	
8	Theoretical (hour/week):	3.00	
9	Practice (hour/week):	0.00	
10	Laboratory (hour/week):	0	
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. Belgin İZGİ Prof. Dr. M. H. TÜRKDEMİR Prof. Dr. Saliha ŞAHİN Prof. Dr. Elif TUMAY ÖZER Doç. Dr. Ümran SEVEN ERDEMİR Doç. Dr. Önder AYBASTIER	
16	Contact information of the Course Coordinator:	belgin@uludag.edu.tr 0 224 29 41 728	
17	Website:		
18	Objective of the Course:	The aim of the course is to make the students gain the basic knowledge and skills about different sample preparation methods for different matrices. So that students may encounter in graduate studies at analytical analysis methods is expected to be successful.	
19	Contribution of the Course to Professional Development:	Helps basic chemistry knowledge develop new approaches for real sample	
20	Learning Outcomes:		
		1	Optimize the use of methods of sample preparation on analytical thinking.
		2	Enhance the ability to approach on different matrices, depending on the method of analysis for selection of the desired analyte.
		3	Gain the skill assessment for evaluation of the uncertainties of the process until the outcome of the analysis.
		4	Evaluate the performance criteria and develops the capability of responding according to the method of analysis.
		5	Learn what parameters to use for transport of sample analysis results, gains perspective of the GLP (Good Laboratory Practices)
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21	Course Content:			
	Course Content:			
Week	Theoretical	Practice		
1	General introduction, methods of sample preparation and analytical examination of the relationship between performance and time			
2	Examination of the sample preparation techniques (homogenization, dissolutin methods (wet-dry), extraction methods (liquid-liquid (LLE), solid phase (SPE)), concentration, analysis, investigation steps			
3	Relating to the subject with emphasis on performance characteristics			
4	The most basic step in terms of sample preparation conditions and the importance of sampling, the sampling design			
5	As a storage container for the sample storage conditions, etc. The relationship between products and the matrix			
6	Volatile and nonvolatile storage of specimens of species in regard to evaluation of approaches and pollutants			
7	According to differences in the matrix in terms of the homogenizing step process			
Activites		Number	Duration (hour)	Total Work Load (hour)
Theoretical	Midterm Exam + repetition of previous issues	14	3.00	42.00
Practicals/Labs		0	0.00	0.00
Self study and preparation	Mixtures assessment and green chemistry (green chemistry) relationship	14	4.00	56.00
Homeworks		0	0.00	0.00
Projects	principle of LLE and SPE methods	0	0.00	0.00
Field Studies		0	0.00	0.00
Midterm Exams	Methods for matrices and derivatization	1	30.00	30.00
13	SCE (Super critical extraction) and the use of			
Others		0	0.00	0.00
Final Exams	assessments relating to applications	1	52.00	52.00
14	Regulation for the purpose of preparing the			
Total Work Load				180.00
Total work load/ 30 hr				6.00
ECTS Credit of the Course				6.00
	Materials:	[2] www.instrumentalchemistry.com/sampleprep [3] Sample Preparation Techniques in Analytical Chemistry, J. D. WINEFORDNER [4] Sample Preparation for Trace Element Analysis, Z. Mester, J. Sturgeon, 2003, Elsevier		
23	Assesment			
TERM LEARNING ACTIVITIES		NUMBE R	WEIGHT	
Midterm Exam		1	20.00	
Quiz		0	0.00	
Home work-project		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	Relative evaluation is applied.
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	0	5	0	0	0	0	5	0	0	0	0	0	0
ÖK2	5	0	4	0	5	0	0	0	0	0	0	0	0	0	0	0
ÖK3	5	0	4	0	5	0	0	0	0	0	0	0	0	0	0	0
ÖK4	5	0	4	0	5	0	0	0	0	0	0	0	0	0	0	0
ÖK5	5	0	4	0	5	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				