SEPARATION METHODS IN ANALYTICAL CHEMISTRY

1	Course Title:	SEPARATION METHODS IN ANALYTICAL CHEMISTRY
2	Course Code:	KIM5031
3	Type of Course:	Optional
4	Level of Course:	Third 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:	
12	Language:	Turkish
13	Mode of Delivery:	Face to face
14	Course Coordinator:	Prof. Dr. ELİF TÜMAY ÖZER
15	Course Lecturers:	Prof.Dr. M.Haluk Türkdemir Prof.Dr.Belgin İZGİ
16	Contact information of the Course Coordinator:	Prof.Dr. Elif TÜMAY ÖZER etumay@uludag.edu.tr 2942866
17	Website:	
18	Objective of the Course:	Analytical Chemistry is a dynamic discipline. The analytical chemist are constantly working to develop new separation techniques and to increase precision, speed and accuracy of new analytical techniques. Therefore, this course aims to solve problems is to teach how to use the analytical separation techniques.
19	Contribution of the Course to Professional Development:	Learns the separation methods.
20	Learning Outcomes:	
	1	Knows the chemical and physical separation methods
	2	Knows the chromatographic methods
	3	Can choose separation technique by the help of the relationship between the matrix feature and the concerned analyte in the matrix
	4	May follow innovations by searching literature in related issues
	5	Transfers the knowledge learned in this lesson to post-graduate works
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21	Course Content:	
	Course Content:	
Week	Theoretical	Practice
1	The basic principles of separation	
2	The basic principles of separation	

3	Physical and chemical separation methods	
4	Physical and chemical separation methods	
5	Physical and chemical separation methods	
6	Introduction to chromatographic seperations	
7	Chromatographic methods (GC)	
8	Midterm Exam+ Repetition of previous issues	
9	Chromatographic methods (LC)	
10	Chromatographic methods (CE)	
11	Recent developments in chromatography	
12	Midterm Exam+ Repetition of previous issues	
13	Literature investigations	
14	Literature investigations	

22	Textbooks, References and/or Other Materials:	1-Separation Process Principles, J. D. Seader and Ernest J. Henley 2-Chromatography and Separation Science, Volume 4 (Separation Science and Technology), Satinder Ahuja 3-İnternet
23	Assesment	

TERM LEARNING ACTIVITIES	**NUMBER**	**WEIGHT**
Midterm Exam	1	20.00
Final Exam	1	60.00
Contribution of Term (Year) Learning Activities to Success Grade		40.00
Contribution of Final Exam to Success Grade		60.00
Measurement and Evaluation Techniques Used in the Course		The system of relative evaluation is applied. Midterm exam and presentation

24 ECTS / WORK LOAD TABLE

Activites	Number	Duration (hour)	Total Work Load (hour)
Theoretical	14	3.00	42.00
Practicals/Labs	0	0.00	0.00
Self study and preperation	14	6.00	84.00
Homeworks	0	0.00	0.00
Projects	0	0.00	0.00
Field Studies	0	0.00	0.00
Midterm exams	1	20.00	20.00
Others	0	0.00	0.00
Final Exams	1	30.00	30.00
Total Work Load			196.00
Total work load/ 30 hr			5.87
ECTS Credit of the Course			6.00

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	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ÖK2	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ÖK3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ÖK4	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0

ÖK5	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**