



YOZGAT BOZOK UNIVERSITY FACULTY OF ARTS AND SCIENCES
CHEMISTRY DEPARTMENT COURSE PLAN

Course Code	Course Title	Semester	Course Type (C/E)	T+A+L (Time/Week)	Credit	ECTS	Course Language
KİM706	Separation Techniques	8	E	2+0+0	2	4	Turkish

COURSE INFORMATION

Course Catalog Description (Content)	Introduction to analytical separation methods/ physical separation methods/ chromatographic separation methods / separation varieties by planar chromatography, theory and applications/separation varieties by column chromatography, theory and applications / separation theory by gas chromatography and applications / separation by liquid chromatography, types, theory and application / separation by supercritical fluid chromatography theory and application / capillary electrophoresis / separation capillary electro chromatography
The Aim of the Course	To choose the separation technique necessary to ensure the separation of substances from each other in chemical analysis stages and to apply it correctly.
Course Level	Undergraduate
Course Language	Turkish
Teaching method	(X) Formal () Online (X) Mixed/Hybrid
Teaching Staff of the Course	Prof. Dr. İsmail AKDENİZ
Prerequisite Course(s) of the Course	-
Learning Outcomes from the Course	<ol style="list-style-type: none">1. Gain both fundamental and practical aspects of analytical separation methods2. Recognize newly applied separation techniques3. Will learn the selection of the appropriate separation method in quality control processes.4. Defines and comprehends chemical concepts and theories in Analytical Chemistry.5. Applies her/his knowledge and understanding of chemistry to the solution of unconventional qualitative and quantitative problems.

COURSE CONTENT

Week	Theory	Practice/Laboratory
1	Purpose and classification of analytical separation methods	
2	A variety of physical separation methods and theories	
3	Micro extraction methods	
4	Classification and theory of chromatographic separation methods	
5	Parameters affecting the chromatographic separation	
6	Separation by planar chromatography and applications, separation by column chromatography	
7	Separation by gas chromatography	

8	Separation by gas chromatography	
9	Separation by liquid chromatography	
10	Gradient and isocratic separation techniques	
11	Liquid chromatography applications	
12	Supercritical fluid chromatography separation and applications	
13	Capillary electrophoresis and capillary electro chromatography separation	
14	Capillary electrophoresis and capillary electro chromatography separation	
15	Final Exam	

Course Learning Resources

1. Principles of Instrumental Analysis Douglas A Skoog F. James Holler Timothy A. Nieman
- 2.

ASSESSMENT CRITERIA

Work Activities During the Semester	Number	Contribution
Homework		
Practice		
Forum/ Discussion Application		
Short Exam (Quiz)	3	100
Ratio Of Semester Studies To Semester Success (%)		50
Ratio of Final to Success (%)		50
Total		%100

COURSE WORKLOAD TABLE

Activity	Total Weeks	Duration (Weekly Hours)	Total Workload
Theory	14	2	28
Practice			
Forum/ Discussion Application			
Reading			
Internet Scanning, Library Study	14	2	28
Material Design, Application			
Report Preparation	14	2	28
Presentation Preparation			
Presentation			
Final Exam	1	2	2
Preparation for the Final Exam	1	10	10
Other(s) (Preparation for Quizzes and Exams)	3	2	6
Total Workload			102
Total Workload / 25 (s)			102/25
ECTS Credits of the Course			≅4
Note: The workload of the course will be determined by the instructor on a per-course basis.			

PROGRAM LEARNING OUTPUTS CONTRIBUTION LEVELS

No	Program Learning Outputs	1	2	3	4	5
1	Gains extensive knowledge about the basic chemical properties of matter and uses this knowledge in daily life, industrial scale, and practical chemistry and shares them with the society.				X	
2	Performs experiments, collects data, interprets, evaluates results, defines problems parallel to current technological developments, produces solutions against problems encountered in the laboratory.					X
3	Calculates and processes chemical information and data.					X
4	Applies her/his knowledge and understanding of chemistry to the solution of unconventional qualitative and quantitative problems.			X		
5	Defines and comprehends chemical concepts and theories in Inorganic Chemistry, Organic Chemistry, Physical Chemistry, Analytical Chemistry, Biochemistry.					X
6	Can conduct research in the light of scientific data on any subject in the field of chemistry.			X		
7	Writes, presents, discusses scientific material, and presents it orally to a knowledgeable audience.		X			
8	Brings a chemical approach to the solution of environmental problems, makes environmental analyzes and reports.			X		
9	Knows a foreign language at a level to read and understand the basic terms and processes of the chemist profession.	X				
10	Can use computer software and information and communication technologies at the level required by the field.	X				
11	Adapts and transfers the knowledge gained in the field to secondary education.				X	
12	Apart from the field of chemistry, she/he gains knowledge in different branches of science that she feels close to.			X		
13	Carries out a study independently, makes group work and gains the awareness of taking responsibility.			X		
14	They can develop a positive attitude towards lifelong learning and constantly renew their professional knowledge and skills.				X	
15	Have sufficient awareness of the universality of social rights, social justice, quality culture and protection of cultural values, environmental protection, occupational health and safety.				X	