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
KİM708	Electroanalytical Chemistry	2	E	2+0+0	2	4	Turkish

COURSE INFORMATION

Course Catalog Description (Content)	Electrochemical cells / Nonfaradic methods for electrochemical analysis, Conductometry and applications, oscilometry / Potentiometry, chronopotentiometry/ faradic methods for electrochemical analysis, Theory of electrolysis / Voltammetry, polarography and related methods, D.C. Polarography, A.C. Polarography / Voltammetry with static electrodes, voltammetry with hydrodynamic electrodes / Amperometric titrations / Stripping voltammetry / Electrodeposition, coulometry
The Aim of the Course	To give detailed information about the electrometric methods of analytical chemistry to students who will do postgraduate studies in the field of chemistry, especially in analytical chemistry, and to provide a basis for closely following new developments in science.
Course Level	Undergraduate
Course Language	Turkish
Teaching method	() 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	1. Students will combine his/her advanced scientific knowledge and facility with protocols and procedures to perform studies in the field of chemistry and related fields. 2. Students will specialize in the same or in a different area and improve and extend his/her understanding of the field and able to analyze and interpret information 3. Students will be able to successfully carry out a study, which requires specialization in the field of chemistry or related field either independently or in collaboration with other scientists using his/her analytical thinking skills. 4. Students will be able to critically evaluate the knowledge and skills that he/she has acquired during his/her of specialization and can direct his/her own learning process. 5. Students will be able to present up-to–date progress in the field of chemistry and related fields and his/her own work supported by quantitative and qualitative data in written, oral, or audiovisual format to groups within or outside his/her field of study.

COURSE CONTENT

Week	Theory	Practice/Laboratory
1	Electrochemical Cells	
2	Conductometry and applications, Oscilometry	
3	Nonfaradic Methods for Electrochemical Analysis	
4	Potentiometry, Chronopotentiometry	
5	Faradic Methods for Electrochemical Analysis	

6	Voltammetry, Polarography and related techniques	
7	Voltammetry, Polarography and related techniques	
8	Alternating Current Polarography	
9	Alternating Current Polarography	
10	Stationary Electrodes in Voltammetry, Hydrodynamic Electrodes	
11	Electrogravimetry, Coulometry	
12	Electrogravimetry, Coulometry	
13	Stripped Voltammetry	
14	Amperometric titrations	
15	Final Exam	

Course Learning Resources

1. A.R. Berkem, Elektrokimya, İ.Ü. Yayınları,1984
2. A. Yıldız, Ö. Genç, Enstumental Analiz, H.Ü. Yayınları, A64, 1993
3. Ş. Aycan, Polarografi, Y.T.Ü.Yayınları,1998

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			
Presentation Preparation			
Presentation			
Final Exam	1	2	2
Preparation for the Final Exam	1	10	10
Other(s) (Preparation for Quizzes and Exams)	3	10	30
Total Workload			98
Total Workload / 25 (s)			98/25

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	