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
KİM744	Forensic Chemistry	1-2	E	2+0+0		4	Turkish

COURSE INFORMATION

Course Catalog Description (Content)	Crime scene, physical evidence, physical features, microscope, chromatography, spectrophotometer, organic analysis, inorganic analysis, serology, blood analysis, microscopic examinations, fingerprint, footprint analysis, hair analysis, DNA, pharmaceutical chemistry, toxicology, arson, explosives, fiber comparisons, dyes, glass compositions, glass fragmentation, soil comparisons, arson studies.
The Aim of the Course	The aim of this course is to teach the use of chemistry in the forensic field and the applied analysis methods; Gaining scientific foundations in terms of collecting and evaluating data.
Course Level	Bachelor degree
Course Language	Turkish
Teaching method	(X) Formal ( ) Online ( ) Mixed/Hybrid
Teaching Staff of the Course	Asst. Prof. Dr. Hatice ARI
Prerequisite Course(s) of the Course	-
Learning Outcomes from the Course	**1-** Can learn the theory and practical application examples of the basic techniques used by chemists working in the field of forensic chemistry. **2-** Acquire the ability to work in forensic cases. **3-** Gain extensive knowledge of sample collection and analysis. **4-** Can identify possible document frauds. **5-** In the triangle of incident, victim and perpetrator, he/she can gain the ability to reach the criminal by making chemical analyzes on the evidence.

COURSE CONTENT

Week	Theory	Practice/Laboratory
1	Fundamentals of Forensic Chemistry	
2	Instrumental analysis methods used in Forensic Chemistry	
3	Separation techniques	
4	Purification techniques	
5	Toxicology analyzes	
6	Crime scene investigation - Sampling techniques	
7	Fabric and fiber analyzes	
8	Abused substance (drugs) analyzes	
9	Analysis of soil, glass and metallic materials	
10	Explosive material types and analysis	
11	Dyestuff and ink analysis	
12	Waste residue swap analysis	
13	Blood and fingerprint analysis	
14	Fire and arson investigation	

15	Final Exam

Course Learning Resources

1. Doç. Dr. Zuhal Gerçek, Adli Kimya, Nobel Yayınevi, 2014
2. Kelly M. Elkins, Introduction to Forensic Chemistry, Taylor and Francis, 2019
3. R. Saferstein, Criminalistics An Introduction To Forensic Science, Third Ed., Prentice Hall, Inc., Englewood Cliffs, New Jersey, 1987
4. A. Meahley, L. Strömberg, "Chemical Criminalistics", Springer Verlag, Berlin, 1981.

ASSESSMENT CRITERIA

Work Activities During the Semester	Number	Contribution
Homework	1	30
Practice		
Forum/ Discussion Application		
Short Exam (Quiz)	2	70
Ratio Of Semester Studies To Semester Success (%)		%40
Ratio of Final to Success (%)	**1**	%60
Total		%100

COURSE WORKLOAD TABLE

Activity	Total Weeks	Duration (Weekly Hours)	Total Workload
Theory	14	2	28
Practice			
Forum/ Discussion Application			
Reading	14	2	28
Internet Scanning, Library Study			
Individual study	14	1	14
Brainstorming	14	1	14
Presentation Preparation			
Presentation			
Final Exam	1	1	1
Preparation for the Final Exam	3	5	15
Diğer (Belirtiniz: Ev Ödevi)			
Total Workload			100
Total Workload / 25 (s)			100/25
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**