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
KİM111	GENERAL CHEMISTRY I	FALL	C	4+0+ 0		5	Turkish

COURSE INFORMATION

Course Catalog Description (Content)	Matter: Elements, Compounds, Mixtures, Naming compounds, some simple reactions of some metals. Measurements and Mole Concept: Conversion of units, uncertainty in measurements, accuracy and precision, chemical quantities, determination of chemical formulas, solutions, introduction of some basic laboratory tools and equipment, Atom Structure: Characteristics of light, atomic spectra, energy levels, atomic models, writing the electron distributions of multi-electron atoms and ions, general properties of the periodic table. Chemical Reactions: Writing chemical reactions, balancing reactions, precipitation, neutralization and redox reactions, Reaction Stoichiometry: Mole-mole estimation, mass-mass estimation, determination of the required volume of the solution for the reaction, theoretical and experimental yields of the limiting reagents and reactions, Chemical Bonds: Ionic Bonds, Covalent Bonds, Lewis structures, lattice enthalpy, formal charges, Molecules: Shape of molecules and polyatomic ions, VSEPR model, charge distributions, bond strength and bond lengths, hybridization of orbitals, Gases: State of matter, molecular character of gases, gas laws, gas mixtures, real gases, Liquid and Solids: Intermolecular forces, liquid structure, viscosity, surface tension, solid structure, classification of solids, viscosity of a liquid
The Aim of the Course	The main purpose of the course is to give information about matter, the structure of the atom, molecules, compounds and types of chemical reactions, states of matter, chemical bonds and molecular shapes, and to give basic concepts that may be necessary in chemistry education.
Course Level	Bachelor degree
Course Language	Turkish
Teaching method	(X) Formal ( ) Online ( ) Mixed/Hybrid
Teaching Staff of the Course	Relevant Lecturer
Prerequisite Course(s) of the Course	
Learning Outcomes from the Course	**1-** Defines matter and its properties, uses measurement units. **2-** Learns atomic theories and periodic table. **3-** Learns the concepts of elements and compounds, naming and stoichiometric calculations. **4-** Can prepare solutions and comprehend aqueous solution reactions. **5-** Learns chemical bond types and bond theories. **6-** Learns states of matter (gas, liquid, solid) and intermolecular forces.

COURSE CONTENT

Week	Theory	Practice/Laboratory
1	Introduction, Definition and General Information	

2	Matter: Its Properties and Measurement	
3	Atomic Structure and Atomic Models	
4	Chemical Compounds	
5	Chemical Reactions	
6	Introduction to Reactions in Aqueous Solutions	
7	Introduction to Reactions in Aqueous Solutions	
8	Gases	
9	Gases	
10	Thermochemistry	
11	Electrons in Atoms	
12	The Periodic Table and Some Atomic Properties	
13	Chemical Bonding I: Basic Concepts	
14	Chemical Bonding II: Additional Aspects	
15	Final Exam	

Course Learning Resources

1- Genel Kimya: İlkeler ve Modern Uygulamalar 1, R.H. Petrucci, W.S. Harwood, F.G. Herring, Çeviri Editörleri: T. Uyar, S. Aksoy, R. İnam, Onuncu Baskıdan Çeviri, Palme Yayıncılık, 2001.
2- Temel Kimya: Moleküller, Maddeler ve Değişimler, Atkins ve Jones, Çeviri Editörleri: E. Kılıç, F. Köseoğlu, H. Yılmaz, İkinci Baskıdan Çeviri, Bilim Yayıncılık
3- Genel Kimya-Temel Kavramlar, R. Chang, K.A. Golsby, Çeviri Editörleri: R. İnam, S. Aksoy, T. Uyar, Yedinci Baskıdan Çeviri, Palme Yayıncılık, 2016.
4- Prof. Dr. Ender Erdik, Prof. Dr. Yüksel Sarıkaya, Temel Üniversite Kimyası, Gazi Kitabevi, 2000.

ASSESSMENT CRITERIA

Work Activities During the Semester	Number	Contribution
Homework	2	%40
Practice		
Forum/ Discussion Application		
Short Exam (Quiz)	3	%60
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
Brainstorming	14	1	14
Individual study	14	2	28
Attendance to Class	14	4	56
Homework	2	1	2
Quiz (Quiz)	2	1	2
Quiz Preparation	2	3	6
Final Exam	1	2	2
Preparation for the Final Exam	3	5	15
Total Workload			125
Total Workload / 25 (s)			125/25

ECTS Credits of the Course	≅5
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.					
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			