ESOGÜ Electrical-Electronics Engineering Department

COURSE CODE: 151221195 - 151241195 **COURSE TITLE:** Chemistry

Semester	Weekly Hours		COURSE			
	Theoretical	Practical	Credits	ECTS	Type	Language
1	3	0	3	3	Compulsory (x) Elective ( )	Turkish ( ) English (x)

Write the credit (for non-credit courses weekly hours) below (If necessary distribute the credits.).

Math and Basic Science	Electrical Engineering [mark (√) if there is high design content]		General Education	Humanities
3	0	( )	0	0

Assessment	THEORETICAL-PRACTICAL COURSES			LABORATORY COURSES		
	Type	Number	%	Activity Type	Number	%
Midterm	Midterm	1	50	Quiz		
	Quiz			Lab performance		
	Homework			Report		
	Project			Oral exam		
	Other (……)			Other (……)		
Final		1	50			
Makeup exam (Oral/Written)	Oral					

Prerequisites	-
Brief content of the course	Basic properties of subsances, measurements, atoms and atomic theory, periodic table and periodic properties, chemical reactions and stoichiometry, gaseous state, thermodynamics and thermochemistry, solutions, chemical equilibria, electrochemistry
Objectives of the course	To introduce the main subjects of chemistry, to provide the basic chemistry knowledge necessary for electrical engineering
Contribution of the course towards professional education	Providing the fundamental chemistry knowledge and the ability of solving problems in chemistry
Outcomes of the course	The student can define, explain and use the basic knowledge on the subjects in the course contents and can also solve the prroblems related to these areas
Textbook of the course	Chemistry, The Study of Matter and Its Changes; J. E. Brady, J. R. Holum; John Wiley & Sons, Inc.
Other reference books	
Required material for the course	

WEEKLY PLAN OF THE COURSE	
Week	**Topics**
1	Basic concepts and properties, measurements, units, dimensions, basic calculations
2	Atoms and atomic theory, periodic table and periodic properties, the mol concept
3	Chemical reactions and stoichiometry
4	Chemical compounds, mole and chemical Formula calculations, mass relationships in chemical phenomena
5	Concentration units, stoichiometry in solutions
6	Gaseous state
7	Thermodynamics
8	Midterm
9	Midterm
10	Thermochemistry
11	Equilibrium
12	Solutions, colligative properties
13	Chemical equilibria
14	Electrochemistry
15,16	Final

Contribution of the course to the program outcomes

NO	OUTCOMES OF THE PROGRAMME	4	3	2	1
1	Adequate knowledge of mathematics, science and Electrical and Electronic Engineering; ability to practice theoretical and practical knowledge of these areas into modeling and solving problems of Electrical and Electronic Engineering	X			
2	Ability to identify complex engineering problems in Electrical and Electronic Engineering and related fields, for this purpose having skills to formulate, select and apply appropriate methods.				X
3	Having skills to apply modern design methods to design a complex system, equipment or product that should work under realistic conditions and constraints and satisfy specific requirements concerning the Electrical and Electronic Engineering.				X
4	Having skills to develop, select and apply modern techniques and tools needed for Electrical and Electronic Engineering applications, skills to use information technology effectively.				X
5	Skills to design and conduct tests, collect data, analyze results, and interpret data for the experimental investigation of Electrical and Electronic Engineering problems				X
6	Ability to function effectively as an individual and as a member of teams within the discipline and in multidiscipline areas.				X
7	Communicating effectively in oral and written form both in Turkish and English.				X
8	Awareness of the necessity of lifelong learning, access to information, monitoring developments in science and technology and the ability to self-renewing			X	
9	Understanding of professional and ethical responsibility				X
10	Information on project management, change management and risk management practices, awareness on entrepreneurship, innovation and sustainable development.				X
11	Information about universal and societal effects of engineering applications on health, safety and environment; awareness of the legal consequences of engineering solutions.				X

Scale for assessing the contribution of the course to the program outcomes:

4: High **3: Medium** **2: Low** **1:None**

Name of Instructor(s): Osman Sermet Kabasakal

Signature(s): **Date:**