



COURSE INFORMATION FORM

Course Name	Course Code
CHEMISTRY LABORATORY	151911189

Semester	Number of Course Hours per Week		Credit	ECTS
	Theory	Practice		
1	0	2	1	2

Course Category (Credit)				
Basic Sciences	Engineering Sciences	Design	General Education	Social
√				

Course Language	Course Level	Course Type
Turkish	Undergraduate	Compulsory

Prerequisite(s) if any	
Objectives of the Course	To give the abilities to obtain, evaluate, discuss, report and submit the experimental data by performing the experiments which are the applications of the knowledge of chemistry gained in the chemistry course and to achieve this in accordance with laboratory safety rules.
Short Course Content	Verification of the Law of Definite Proportions, calculation of the ideal gas constant and the molar volume of a gas, calculation of the equivalent weight and atomic mass of a metal, qualitative analysis, titrimetric analysis, Charles' Law

Learning Outcomes of the Course	Contributed PO(s)	Teaching Methods *	Measuring Methods **
1 Learns to determine the density of solids and liquids.	1	3, 5, 12, 15	A, E
2 Analyzes, discusses, interprets and presents the Verification of the Law of Fixed Proportions.	1	3, 5, 12, 15	A, E
3 Analyzes, observes and interprets precipitate formation.	1	3, 5, 12, 15	A, E
4 Analyzes, discusses, interprets and presents Qualitative Analysis.	1	3, 5, 12, 15	A, E
5 Analyzes, discusses, interprets and presents Titrimetric Analysis.	1	3, 5, 12, 15	A, E
6 Learns to prepare solutions.	1	3, 5, 12, 15	A, E
7 Observes Graham's law of diffusion on the relative diffusion of gases.	1	3, 5, 12, 15	A, E
8			
9			
10			

*Teaching Methods 1:Expression, 2:Discussion, 3:Experiment, 4:Simulation, 5:Question-Answer, 6:Tutorial, 7:Observation, 8:Case Study, 9:Technical Visit, 10:Trouble/Problem Solving, 11:Individual Work, 12:Team/Group Work, 13:Brain Storm, 14:Project Design / Management, 15:Report Preparation and/or Presentation

**Measuring Methods A:Exam, B:Quiz, C:Oral Exam, D:Homework, E:Report, F:Article Examination, G:Presentation, I:Experimental Skill, J:Project Observation, K:Class Attendance; L:Jury Exam

Main Textbook	Genel Kimya Laboratuvarı
Supporting References	1. Petrucci, R. H., Harwood, W. S., Herring, F.G., “Genel Kimya (I. ve II. Cilt)”, (Çeviri), Palme Yayıncılık, Ankara, 2002. 2. Mortimer, C.E., “Modern Üniversite Kimyası (I. ve II. Cilt)”, (Çeviri), Çağlayan Kitabevi, İstanbul, 1988. All chemistry and general chemistry lab. Textbooks
Necessary Course Material	Laboratory equipments and experimental setups

Course Schedule	
1	Introduction of the course and giving exam percentages
2	Occupational Health and Safety Information and Laboratory Material Promotion
3	Laboratory Substance-Material Introduction
4	Explaining the safety and laboratory rules, practices and report writing rules that must be followed and determining the experimental groups
5	Determining the Density of Solids
6	Determining the Density of Liquids
7	Verification of the Law of Constant Proportions
8	Midterm Exams
9	Precipitate Formation
10	Qualitative Analysis
11	Titrimetric Analysis
12	Solution Preparation
13	Relative Diffusion Rates of Gases
14	Make-up Week
15	Make-up Week
16,17	Final Exam

Calculation of Course Workload			
Activities	Number	Time (Hour)	Total Workload (Hour)
Course Time (number of course hours per week)	14	2	28
Classroom Studying Time (review, reinforcing, prestudy,...)	4	1	4
Homework	0	0	0
Quiz Exam	0	1	0
Studying for Quiz Exam	0	0	0
Oral exam	5	1	5
Studying for Oral Exam	5	1	5
Report (Preparation and presentation time included)	5	1	5
Project (Preparation and presentation time included)	0	0	0
Presentation (Preparation time included)	0	0	0
Mid-Term Exam	1	2	2
Studying for Mid-Term Exam	1	4	4
Final Exam	1	2	2
Studying for Final Exam	1	5	5
Total workload			60
Total workload / 30			2
Course ECTS Credit			2

Evaluation	
Activity Type	%
Quiz	60
Report	40
Final Exam	
Total	100

RELATIONSHIP BETWEEN THE COURSE LEARNING OUTCOMES AND THE PROGRAM OUTCOMES (PO) (5: Very high, 4: High, 3: Middle, 2: Low, 1: Very low)		
NO	PROGRAM OUTCOME	Contribution
1	To possess sufficient knowledge in mathematics, science, and engineering subjects related to Metallurgical and Materials Engineering; the ability to apply theoretical and practical knowledge in these areas to model and solve engineering problems.	5
2	The ability to identify, define, formulate, and solve complex engineering problems by selecting and applying appropriate analysis and modeling methods.	2
3	The ability to design a complex system, process, device, or product under realistic constraints and conditions to meet specific requirements by applying modern design methods.	2
4	The ability to develop, select, and use modern techniques and tools necessary for engineering applications encountered as a Metallurgical and Materials Engineer; the ability to effectively use information technology.	3
5	The ability to design experiments, conduct experiments, collect data, analyze results, and interpret findings for the investigation of engineering problems.	2
6	The ability to work effectively individually, as well as within disciplinary and interdisciplinary teams.	2
7	The ability to communicate effectively in Turkish, both verbally and in writing; knowledge of at least one foreign language.	2
8	The awareness of the necessity for lifelong learning; the ability to access information, follow developments in science and technology, and continuously renew oneself.	2
9	Awareness of professional and ethical responsibility.	2
10	Knowledge about business practices such as project management, risk management, and change management; awareness of entrepreneurship, innovation, and sustainable development.	2
11	Knowledge about the universal and societal impacts of engineering applications on health, environment, and safety; awareness of the legal consequences of engineering solutions.	3
12	Awareness of quality consciousness and sustainability in material selection, product development, and production processes in engineering applications; awareness of quality control.	3
13	The ability to confidently approach problems encountered in engineering applications.	2

LECTUTER(S)				
Prepared by	Department of Chemistry Faculty Members			
Signature(s)				