



AYDIN ADNAN MENDERES UNIVERSITY COURSE INFORMATION FORM

Course Title		General Chemistry Laboratory							
Course Code		KMY152		Course Level		First Cycle (Bachelor's Degree)			
ECTS Credit	3	Workload	73 (Hours)	Theory	0	Practice	0	Laboratory	3
Objectives of the Course		Recognising laboratory rules and glass material, Making the application of the topics covered in the General Chemistry course.							
Course Content		In this course, the general principles of chemistry lab and the basic chemical devices and substances are taught. Additionally, simple chemistry experiments based on basic chemical principles are exercised in order to support general chemistry courses. Thus the student adapts to working in the chemistry laboratory.							
Work Placement		N/A							
Planned Learning Activities and Teaching Methods				Explanation (Presentation), Experiment, Demonstration, Discussion, Problem Solving					
Name of Lecturer(s)		Assoc. Prof. Erkan FIRINCI, Assoc. Prof. Semiha KUNDAKCI							

Assessment Methods and Criteria

Method	Quantity	Percentage (%)
Midterm Examination	1	20
Final Examination	1	70
Quiz	12	10
Report	12	10

Recommended or Required Reading

1	E. Erdik, Y. Sarıkaya, Temel Üniversite Kimyası, Gazi Kitabevi, 2000.
2	H. Güler, D. Saraydın, U. Ulusoy, Genel Kimya Laboratuvarı, Hatipoğlu Basım ve Yayın San. Tic. Ltd. Şti., 2006.

Week	Weekly Detailed Course Contents	
1	Theoretical	Organization of the lab and students for the term
2	Theoretical	Lab rules and introduction of glass material
3	Theoretical	Determination of the density of liquids and solids. Calibration of burette.
4	Theoretical	Thermal decomposition of potassium chlorate
5	Theoretical	Determination of equivalent weight of a metal.
6	Theoretical	Melting, boiling, sublimation and condensation experiments.
7	Theoretical	Melting, boiling, sublimation and condensation experiments.
8	Theoretical	Preparation of solutions.
9	Theoretical	Determination of the effects of concentration, temperature, surface area and catalyst on reaction rate.
10	Intermediate Exam	Midterm exam.
11	Theoretical	Water vapor distillation.
12	Theoretical	Chemical equilibrium.
13	Theoretical	Determination of molecular weight using freezing point depression.
14	Theoretical	Oxidation and reduction reactions.
15	Theoretical	Evaluation of the term.
16	Final Exam	Final Exam

Workload Calculation

Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Practice	14	0	3	42
Quiz	12	0	1	12
Midterm Examination	1	8	1	9



Final Examination	1	8	2	10
Total Workload (Hours)				73
[Total Workload (Hours) / 25*] = ECTS				3
*25 hour workload is accepted as 1 ECTS				

Learning Outcomes

1	To be able to behave properly in a chemistry lab.
2	To be able to correlate the theoretical and practical applications of chemistry.
3	To be able to gain hand skills for the lab courses for the following years.
4	To be able to have knowledge about basic laboratory techniques.
5	Have the ability to comment on the experiments

Programme Outcomes (Physics)

1	To understand the importance of physics by understanding the general concepts of physics, matter and energy
2	To be able to define the movements of matter and to distinguish the characteristics of movements under different force (potential)
3	Be able to say the meaning of Lagrange and Hamiltonian formulations of the movement and apply them to simple problems,
4	To be able to express the fundamental concepts such as time, space, force, momentum and energy in the movements of matter close to the speed of light and be able to solve and interpret the simple problems related to
5	To be able to establish the relationship between electric and magnetic forces and to be able to illustrate their applications to technology and solve problems related to the movement of particles in electric and magnetic fields
6	Be able to say the basic laws of electromagnetics and apply them to problems, illustrate their applications to simple technology
7	To be able to tell the reasons of the differences between the classical cases and the quantum scale and explain the reasons
8	Explain the concepts of discontinuity, uncertainty, matter-antimatter, indeterminacy of quantum physics with examples and explain simple problems related to the subject.
9	To be able to solve the problems of micro-particles under different simple potentials and be able to say their meanings
10	To be able to establish the relationship between the movements and properties of multi-particle systems and the laws of probability and solve simple problems
11	To be able to illustrate the laws, meanings and applications of thermodynamics and use them
12	Be able to use their knowledge about quantum physics and mechanics in explaining some properties of atoms and nuclei
13	To be able to show the meanings of some theoretical concepts by experimenting, and develop a strong relationship between thought and the real world, develop analytical thinking
14	To be able to apply the meanings of the basic laws of physics, their comprehension of universality and the relations between them and the unity of the laws of nature.
15	Use computer to solve physics problems
16	To be able to understand the problems by using their analytical knowledge skills and to propose solutions by dealing with the laws of physics
17	Be able to use the knowledge of physics to understand new technologies
18	To be able to tell the relations between symmetry and conservation laws in laws of physics

Contribution of Learning Outcomes to Programme Outcomes 1:Very Low, 2:Low, 3:Medium, 4:High, 5:Very High

	L1	L2	L3	L4	L5
P1	5	5	5	5	5
P2	3	4	5	5	5
P3	3	4	4	4	5
P5	3	4	4	4	5
P7					4
P8		2	4	2	2
P9				2	5
P10	5	5	5	5	4
P11	4	4	5	3	3
P12	2	2	3	3	4
P13	4	4	4	4	
P15	2	3	3	3	3
P16	4	3	3	3	4
P17	4	3	4	4	3
P18	5	4	5	5	5

