

FEN 104 CHEMISTRY-II					DEPARTMENT OF PRIMARY-EDUCATION (SCIENCE EDUCATION)					
Semester	Teaching Methods						Credits			
1/2	Lecture	Recite	Lab.			Other	Total	Credit	ECTS Credit	
	56	28					84	5		
Language	Turkish									
Compulsory / Elective	Compulsory									
Prerequisites	No									
Course contents	Periodic Table and some Atomic Properties, Metals, Nonmetals, Chemical bonds and bond theories, Liquids, Solids, Intermolecular Forces of Attraction, Solutions and Their Physical Properties, Chemical kinetics.									
Course Objectives	To explain teoritically and practically the basic concepts and properties of atoms, elements, compounds and solutions, the molecular forces of attractions and the factors that affect the rate of chemical changes.									
Learning Outcomes and Competences	To learn; some properties of atoms, chemical bonds and intermolecular forces of attractions, some properties of solutions and chemical processes. To gain the knowledge about matter and chemical processes, and to transfer this knowledge to other people as an instructure, to facilitate the life by applying this knowledge in solving problems related to the chemical processes in the nature and community.									
Textbook and /or References	Petrucci, H., R., Harwood, W., S., and Herring, F., G., General Cemistry 1, Trans. Edited By, Uyar, T. and Aksoy, S., Palme Publishing, Ankara, 2002.									
Assessment Criteria							<i>If any, mark as(X)</i>	Percent (%)		
	Midterm Exams						X	40		
	Quizzes						-	-		
	Homeworks						-	-		
	Projects						-	-		
	Term Paper						-	-		
	Laboratory Work						-	-		
	Other						-	-		
	Final Exam						X	60		
Instructors	Yrd.Doç.Dr. Atila ÇAĞLAR atila@gazi.edu.tr Yrd.Doç.Dr. Zekeriya YERLİKAYA zekeriya@gazi.edu.tr Yrd.Doç.Dr. Bahattin AYDINLI baydinli@gazi.edu.tr									
Week	Subject									
1	The classification of elements: Periodic law. Atoms and their sizes. Ionization energy.									
2	Elektron affinity. Magnetic properties. Metals, nonmetals and their ions.									
3	The basic concepts in chemical bonds:Lewis theory. Covalent bonding. Diagrams of the									

	Lewis structures and resonance. Exceptions to the Octet rule.
4	Molecular shapes. Bond order and bond distances. Bond energies. Valence Bond Theory.
5	Hybridization of molecular orbitals. Folded covalent bonds. Molecular Orbital Theory. Bond formation in metals.
6	Some properties of liquids. Evaporation of liquids: Vapor pressure. Some properties of solids. Phase diagrams.
7	Van der Waals forces. Hydrogen bonding and chemical bonds with respect to intermolecular forces of attractions. Crystal structures and energy changes during formation of this type of structures.
8	Types of solutions. Concentration of solutions. Intermolecular forces and solubility.
9	Formation of solution and equilibrium. Solubility of gases. Vapor pressure of solution.
10	Osmotic pressure. Freezing point depression and boiling point elevation in nonelectrolyte solutions. Electrolyte solutions.
11	The rate of a chemical reaction. Measurement of rates of reactions. Rate Law.
12	Reaction orders: Reactions with zero, first and second order. Theoretical models in chemical kinetics. The effect of temperature on reaction rates. Catalysts.
13	Laboratory practices.
14	Laboratory practices.

Course Title-Course Code: FEN102 PHYSICS-II							Name of the Programme: DEPARTMENT OF PRIMARY EDUCATION, SCIENCES EDUCATION		
Semester	Teaching Methods						Credits		
	Lecture	Recite	Lab.			Other	Total	Credit	ECTS Credit
1/2	56	-	28			-	84	5	
Language	Turkish								
Compulsory / Elective	Compulsory								
Prerequisites	No								
Course Contents	Static Electric and Electric Field, Coulomb's Law, Electric Potential, Gauss' s Law and Applications of Gauss' s Law, Current, Resistance and DC Circuits, AC and AC Circuits, Semiconductors								
Course Objectives	Giving the concepts of electric and charge in Physics and learning the laws connected with these subjects.								
Learning Outcomes and Competences	Learning basic concepts connected with Electric and Magnetic Fields in Physics.								
Textbook and /or References	- Serway • Beichner, PHYSİCS-II For Sciences ve Engineering, Publisher: Prof.Dr. Kemal Çolakoğlu, Ankara, 2002 - David Halliday • Robert Resnick, Basics of Physics(Electric), Publisher: Prof.Dr. Cengiz Yalçın, Ankara, 1991 - General Physics, Prof .Dr. Kemal Çolakoğlu, Ankara, 1992								
Assessment Criteria							<i>If any, mark as(X)</i>	Percent (%)	
	Midterm Exams						X	40	
	Quizzes						-	-	
	Homeworks						-	-	
	Projects						-	-	
	Term Paper						-	-	
	Laboratory Work						-	-	
	Other						-	-	
	Final Exam						X	60	
Instructors	Assistant Professor Dr. Abdullah AYDIN, aaydin@gazi.edu.tr								
Week	Subject								
1	Static Electric								
2	Coulomb's Law and Electric Field								
3	Gauss's Law								

4	Electric Potential
5	Capacitors and Capacitance
6	Current and Resistance
7	DC Circuits
8	Magnetism and Electromagnetism
9	Faraday's Law and Lenz's Law
10	Alternative Currents
11	AC Circuits
12	Transformers
13	Semiconductors
14	Transistors and Augmentation Circuits

MAT 106 MATHEMATICS -I			DEPARTMENT OF PRIMARY- EDUCATION (SCIENCE SECTION)				AKTS Kredisi
Semester	Teaching Methods			Other	Credits		
	Lecture	Recite	Lab.		Credit	ECTS Credit	
				Total			
1/2	56			56			
Language	Turkish						
Compulsory / Elective	Compulsory						
Prerequisites	No						
Course contents	Calculation technics of indefinite integral. Definition of a definite integral. Meanvalue theorem for integrals. Fundamental theorem of integral calculus. Defined integral and its applications, Numerical integrals. Improper integral. Function series.						
Course Objectives	<ol style="list-style-type: none"> 1. To give fundamentals of mathematics knowledge. 2. To be able to analyse the problem which are met in the fields of mathematics and to gain the ability of problem solving. 3. <u>To gain analytical thinking, discussion and evaluation.</u> 						
Learning Outcomes and Competences	<ol style="list-style-type: none"> 1. To have the fundamentals of mathematical knowledge and culture. 2. To have analytical thinking and evaluation. 3. The skill of evaluation and studying the problems which occur in other disciplines. 						
Textbook and /or References	<ol style="list-style-type: none"> 1. Süray S., Umumi Matematik, C1, Çağlayan Kitabevi, İstanbul, 1974. 2. "Calculus" Thomas- Finney Addison-Wesley, 1998. 						
Assessment Criteria					<i>If any, mark as(X)</i>	Percent	
	Midterm Exams				X	40	
	Quizzes						
	Homeworks						
	Projects						
	Term Paper						
	Laboratory Work						
	Other						
	Final Exam				X	60	
Instructors	Ögr.Gör.Dr.İbrahim Büyükyazıcı, bibrahim@gazi.edu.tr						
Week	Subject						
2	<u>Calculation technics of indefinite integral.</u> <u>Calculation technics of indefinite integral.</u> <u>Calculation technics of indefinite integral.</u> <u>Calculation technics of indefinite integral.</u>						

5	Definition of a definite integral.
6	Meanvalue theorem for integrals.
7	Fundamental theorem of integral calculus.
8	Defined integral and its applications.
9	Defined integral and its applications.
10	Numerical integrals.
11	1stmidtermexam.
12	Improper integral.
13	Function series.
14	Function series.