Code, title, credits Department Physics and Electronics	Identification	Subject	PHSC 112, Physics II - 6 ECTS credits		
Program (undergraduate) Undergraduate (undergraduate) Term Autumn, 2024 Instructor Hajiyeva Hajir	Tuentification		Time 112, Thysics if a Bets elected		
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Language Compulsory/Elective Compulsory	Propognicitos		Tuesday: 10:10-13:20/ Thursday: 10:10-1.	5:20	
Compulsory/Elective Compulsory					
Fundamentals of Physics Extended 8th Edition by Halliday, Resnick, and Serway, Walker JohnWiley, 2011 https://drive.google.com/folderview?id=0B2q6eS6QaN-pZXRDQ3VCDxQYmM⊃=sharing. Go to this page to download the textbook Class assignments: www.edmodo.com Physics II serves as a calculus-based introduction to Electromagnetism. Students will investigate the principles of introductory physics through lectures, seminars, and homework problems The course will cover these topics. Electric Charge and Electric Field. Gauss Law, Electric Potential. Capacitance, Electric Current and Resistance, Circuits, Magnetism Electromagnetic Induction, Electromagnetic Waves, Interference and the Wave Nature o Light. Critical thinking about physics problems is emphasized. To develop an understanding of the concepts of electricity and magnetism, reinforce general problem-solving skills. Students should be able to apply the basic laws of electricity and magnetism to solve simple problems concerning the motion and distribution of charges. The main section of the course consists of teaching electrostatics, circuits, magnetism, Kindents and magnetism to solve simple problems concerning the motion and distribution of charges. The main section of the course consists of teaching electrostatics, circuits, magnetism, Kindents and understanding to solve problems from a practical standpoint. Learning outcomes					
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Midterm Exam 30				,
Case studies Class Participation At each lesson Quizzes During the semester 20 Activity During the semester 10 Presentation Final Exam Others Total Preparation for class The structure of this course makes your individual study and preparation outside the class extremely important. The lecture material will focus on the major points introduced in the text. Reading the assigned chapters and having some familiarity with them before class will greatly assist your understanding of the lecture. Afterthe lecture, you should study notes and work on relevant problems and cases from the end of the chapter and sample exam questions. Withdrawal (pass/fail) This course strictly follows the grading policy of the School of Science and Engineering. Thus, a student is normally expected to achieve a mark of at least60% to pass. In case of failure, he/she will be required to repeat the course thefollowing term or year. Cheating/plagiarism Cheating or other plagiarism during the Quizzes, Mid-term, and Final Examinations will lead to paper cancellation. In this case, the student will automatically get zero (0) without consideration. Professional behavior guidelines The students shall behave in a way to creates a favorable academic and professional environment during the class hours. Unauthorized discussions and unethical behavior are strictly problemic. Attendance Students who attend the whole class will get 5 marks. After three absences the student loses mark. Activity Students who will be active during the discussion of past lessons and who will solve homework problems in a seminar will be awarded one activity mark. There will be 2 quizzes and examinations during the semester. The quizzes will be announced in the classroom two weeks before. The quiz is based on homework problems. The homework problems will be achieved from questions and problems at the end of each chapter. The number of homework problems will be announced after finishing each chapter. The students who can pass the midterm and first quiz with max points au		Midterm Exam		30
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	Date/Day (tentative) ≥			Textbook

1	18.09.2024	Electric Charge	1. Fundamentals of
1	21.09.2024	Electric Charge The Origin of Electricity, Types of Electric Charge	Physics by
	21.09.2024	- Forces among two charges (Coulomb's law)	i flysics by
		- Charge quantization	Halliday, Chapter 21.2.
		- Charge conservation	Handnotes given by
		Charged Objects and the Electric Force, Conductors and Insulators,	_ ,
		Charging by Contact and Induction, Coulomb's Law.	
2	25.09.2024 28.09.2024	Electric Field The Flectric Field Flectric Field Lines The Flectric Field Incide	1. Fundamentals of
	28.09.2024	The Electric Field, Electric Field Lines, The ElectricField Inside a Conductor.	Physics by Halliday, Chapter 22.
		Calculate the electric field generated by a pointcharge.	Chapter 22.
		- Using the principle of superposition determine the electric field	2. Handnotes given by
		created by a collection of point charges as well as continuous	teacher.
		charge distributions.	
		- Define the notion of an "electric dipole". Determine the net force, the net torque, exerted on an electric dipole by a uniform electric	
		field, as well as the dipole potential energy	
3.	02.10.2024	Electric Potential Energy and the ElectricPotential	1. Fundamentals of
	05.10.2024	Potential Energy, The Electric Potential Difference, The Electric	Physics by Halliday,
		Potential Difference Created by Point Charges, Equipotential	Chapter 24.
		Surfaces	2. II 1
			2. Handnotes given by teacher.
4.	9.10.2024	Capacitance	1. Fundamentals of
	12.10.2024	Capacitor; Capacitance, Capacitors in Parallel and in Series	Physics by Halliday,
		Potential Energy and Energy Density, Capacitance with a Gauss'	Chapter 25.
		Law with a Dielectric	1
		Equivalent capacitance.	2. Handnotes given by
		-Energy stored in a capacitor.	teacher
5.	16.10.2024	Current and Resistance	
	19.10.2024	Current, Current Density, Drift Speed, Resistance of a	1. Fundamentals of
		Conductor, Ohm's Law, Resistivity of a Metal, Power,	Physics by Halliday,
		Resistive Dissipation, Semiconductors, Superconductors	Chapter 26.
			2. Handnotes given by
			teacher
6.	23.10.2024	MiddermExam	
	26.10.2024	Problem solving	
7.	30.10.2024	Circuits	
	02.11.2024	Electromotive force (emf), Ideal and real emf devices, Seriwiring,	1. Fundamentals of
		Parallel wiring, Circuits partially series and partials parallel, Internal	Physics by Halliday,
		resistance.	Chapter 27.
			2 Handnetes sives but
			2. Handnotes given by a teacher
8.	06.11.2024	Circuits	
	09.11.2024	RC circuits, charging and discharging of a capacitor,	1. Fundamentals of
		Measurement of current, Kirchhoff's Rules, Capacitors in series	Physics by Halliday,
		and parallel	Chapter 27.
			O Handnetes size : 1
			2. Handnotes given by teacher
9.	13.11.2024	Magnetic Forces and Magnetic Fields	1. Fundamentals of
	16.11.2024	Magnets and Magnetic Fields, Force on a Moving Charge, Motion	Physics by Halliday,
		of a Charged Particle in a Magnetic Field, Mass spectrometer. Hall	Chapter 28
		effect, Force on a Current, Torque on Coil, Magnetic Fields by	Chapter 20
		Currents, Magnetic Materials	

			2. Handnotes given by teacher
10.	20.11.2024	Quiz	
	23.112024	Problem solving	
11	27.11.2024	Magnetic Forces and Magnetic Fields	1. Fundamentals of
	30.11.2024	Hall effect, Force on a Current, Torque on Coil, Magnetic Fields by Currents, Magnetic Materials	Physics by Halliday, Chapter 28.
			2. Handnotes given by teacher
12.	04.12.2024	Magnetic Fields Due to Currents	1. Fundamentals of
	07.12.2024	The Biot-Savart Law, Magnetic Field of a Long Straight Wire,	
		Magnetic Field of a Circular Arc, Force Between Parallel Currents, Ampere's Law, Fields of a Solenoid, and a Toroid.	Chapter 29.
			2. Handnotes given by teacher
13	11.12.2024	Induction and Inductance	1. Fundamentals of
	14.12.2024		Physics by Halliday,
		Magnetic Flux, Faraday's Law, Lenz's Law, Emf andthe Induced	Chapter 30.
		Electric Field, Self-Induction, Mutual Inductance	
			2. Handnotes given by teacher
14	18.12.2024	Electromagnetic Oscillations and Alternating Current	1. Fundamentals of
	21.12.2024	LC oscillations, Damped Oscillations in an RLC Circuit,	Physics by Halliday,
		Forced Oscillations of Three Simple Circuits	Chapter 31.
			2. Handnotes given by teacher
15	25.12.2024	Electromagnetic Oscillations and Alternating Current	1. Fundamentals of
	28.12.2024	The Series RLC Circuit, Power in Alternating-Current	Physics by Halliday,
		Circuits, Transformers	Chapter 31.
			2. Handnotes given by
			teacher
-		E. 1 F	
		Final Exam	

This syllabus is a guide for the course and any modifications to it will be announced in advance.

