

DEPARTMENT OF ENERGY SCIENCE AND TECHNOLOGY COURSE SYLLABUS

Course Details								
Code				Acad	Academic Year			ster
PHY112				1	1 2		2	
Title					Α	L	ECTS	
Physics II		2	1	2	6			
Language	German							
Level	Undergraduate X Graduate				Postgraduate			
Department / Program	Energy Science and	Energy Science and Technology						
Forms of Teaching and Learning	Face-to-face							
Course Type	Compulsory X Elective							
Objectives	This course aims to	o give studen	ts the basic kn	owledge	of elect	romagı	netism.	
Content	This course covers electrostatics (field, flux, potential, Gaussian theorem, capacity), currents (resistance, Ohm's law, Kirchhoff's rules), magnetostatics (Lorentz force, Amperes law), electrostatics and magnetostatics in the medium (dielectricity, paramagnetism), induction and alternating currents (Faraday's law of induction, resonant circuits), electromagnetic fields and Maxwell's equations							
Prerequisites	None							
Coordinator	Assist. Prof. Dr. Gülsüm Gündoğdu Assist. Prof. Dr. Elif Yunt							
Lecturer(s)		Assist. Prof. Dr. Gülsüm Gündoğdu Assist. Prof. Dr. Elif Yunt						
Assistant(s)	Dr. Anıl Can Duman Research Assist. Berat Berkan Ünal Research Assist. Yusuf Karakuş							
Work Placement	None							
Recommended or Required Reading								
Books / Lecture Notes	Physik, Lehr- und Übungsbuch, Douglas C. Giancoli, 3. erweiterte Auflage, Halliday, Physik, Wiley-VCH, 2016							
Other Sources								
Additional Course Material								
Documents								
Assignments								
Exams								
Course Composition								
Mathematics und Basic Sciences	80 %							
Engineering	10 %							



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Social Sciences % Ratural Sciences 10 % Expert Knowledge % % Received growing and support of the learned of	Engineering Des	ign		%		
Natural Sciences 10 % Expert Knowledge % Assessment Activity Count Percentage (%) Midterm Exam 1 30 Quiz Assignments 1 30 Assignments 1 40 Attendance 1 40 Projects Total 40 ECTS Points and Work Load 40 ECTS Points and Work Load More Load 40 ECTS Points and Work Load More Load	Social Sciences			%		
Health Sciences	Educational Scie	nces		%		
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6								
7								
8								
9								
10								
11								
12								
Weekly Conten	it							
1	Electrical charge	e, Electrostatics	5					
2	Coulomb's Law,	Electrical Field						
3	Gauss Law							
4	Voltage, Electri	c Potential						
5	Capacitors, Diel	ectrics						
6	Electrical Curre	nt, Resistors, O	hm's Law, Electr	romotive Force				
7	Direct Current (Ciurcuits, Kirchh	noff's Law					
8	Magnetic Field,	Magnetic Force	es					
9	Sources of Mag	netic Field						
10	Electromagneti	c Induction, Far	aday's Law					
11	Magnetic Mate	Magnetic Materials						
12	Inductivity	Inductivity						
13	Alternating current circuits (RLC)							
14	Electromagnetic waves							
15	Final Exam							
Contribution of	f Learning Outc	omes to Prog	ram Objective	s (1-5)				
	P1	P2	Р3	P4	P5	P6	P7	
1	5	5	5	5		5	5	
2	5	5	5	5		5	5	
3	5	5	5	5		5	5	
4								
5								
6								
7								
8								



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9						
10						
11						
12						
Contribution Level 1: Low 2: Low-intermediate 3: Intermediate 4: High 5: Very High						

P1 Working with modern scientific sources.

- P2 Having modern scientific knowledge and scientific analysis abilities and being able to apply them to scientific problems.
- P3 Having theoretical and practical skills in the area of Energy Science and Technology.
- P4 Having foreign language skills to follow the worldwide advancements in the field of Energy Science and Technology and to be able to discuss them with foreign colleagues.
- P5 Having computational skills for research data analysis purposes.
- P6 Having appropriate skills for academic and industrial jobs, being ready to take responsibility in working life.
- P7 Having knowledge about work occupational work and safety.

Compiled by:	
Date of Compilation:	06.04.2024