



COURSE INFORMATION FORM

Course Name	Course Code
PHYSICS II	151912183

Semester	Number of Course Hours per Week		Credit	ECTS
	Theory	Practice		
2	3	0	3	3

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

Course Language	Course Level	Course Type
Turkish	Undergraduate	Compulsory

Prerequisite(s) if any	none
Objectives of the Course	To teach the basic laws and concepts of physics and to give various applications in daily life.
Short Course Content	Electric Charges, Coulomb's Law, Electric Field, Electric Potential, Capacitors and Dielectric Materials, Resistance and Electric Current, Magnetic Field, Magnetic Field Sources, Faraday's Law of Induction.

Learning Outcomes of the Course	Contributed PO(s)	Teaching Methods *	Measuring Methods **
1 Explains the basic laws and concepts of Electricity and Magnetism.	1	1	A
2 The student recognizes and solves various problems of physical systems in practice.	1	1	A
3 Applies physical systems in daily life.	1	1	A
4			

***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	"I. Halliday, D., Resnick, R., and Walker, J. (2008). Fundamentals of Physics (8th Edition). John Wiley & Sons, Inc.2. Serway, R.A., Beichner, R.J., Physics For Scientists and Engineers with Modern Physics (2007), Harcourt College Publishers."
Supporting References	"I. Young, H.D, Freedman, R.A. (2006). University Physics Volume1 (12th Edition). Pearson/Addison Wesley 2.Ohanian, H.C. (1989). Physics (2nd Edition) New York: W.W. Norton & Company, Inc.3. Giancoli, D.C. (2004). Physics: Principles with Applications (6th Edition). Pearson Education Inc."
Necessary Course Material	

Course Schedule	
1	Electric Charges, Coulomb's Law
2	Electric field
3	Electric Potential
4	capacitors
5	Dielectric Materials
6	Electrical current
7	Electrical Work and Power
8	Mid-Term Exam
9	Kirchoff's Laws
10	Kirchoff's Laws
11	Multistage Circuits
12	Magnetic Field
13	Magnetic Field Sources
14	Faraday's Law of Induction
15	Faraday's Law of Induction
16,17	Final Exam

Calculation of Course Workload			
Activities	Number	Time (Hour)	Total Workload (Hour)
Course Time (number of course hours per week)	14	3	42
Classroom Studying Time (review, reinforcing, prestudy,...)	14	1	14
Homework	5	1	5
Quiz Exam			
Studying for Quiz Exam			
Oral exam			
Studying for Oral Exam			
Report (Preparation and presentation time included)			
Project (Preparation and presentation time included)			
Presentation (Preparation time included)			
Mid-Term Exam	1	1	1
Studying for Mid-Term Exam	7	3	21
Final Exam	1	2	2
Studying for Final Exam	14	1	14
Total workload			99
Total workload / 30			99/30
Course ECTS Credit			3

Evaluation	
Activity Type	%
Mid-term	50
Quiz	
Homework	
Bir öge seçin.	
Bir öge seçin.	
Final Exam	50
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.	3
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	Asst. Prof. Dr. Şadiye Meral ÇAKMAK			
Signature(s)				

Date:06.06.2024