ENGINEERING FACULTY

PHYSICS II COMMON COURSES

COURSE SYLLABUS

Course Code	PHYS104 (7)
Course Title	PHYSICS II
Compulsory / Elective	***Compulsory***
Programme Name	ENGINEERING COMMON COURSES
Programme Type	UNDERGRADUATE
Semester	2023-2024 SPRING
Weekly Course Hours	4
Weekly Course Schedule	Monday: 15.30 – 17.20 Thursday: 10.30 – 12.20
Name- Surname of The Lecturer	Dr. İrem ALP
Contact Information of The Lecturer	iremoner@gazi.edu.tr / (0312) 2021523

Course Prerequisites

There is no prerequisite for this course

Course Definition and Objectives

To understand the nature, the examination of basic physical phenomena in nature, learning the basic concepts and laws related to the electricity and magnetism, analyzing and defining different types of electrical and magnetic phenomena. Studying multi-particle systems, introducing the concepts of finite difference and infinitesimal change and applying them to the calculation of different physical quantities.

References

1) Physics for Scientists and Engineers, R. Serway & John W. Jewett, Thomson Brooks/Cole © 9th Edition.

Auxiliary References

1) Physics for Scientists and Engineers, R. Serway & John W. Jewett, Thomson Brooks/Cole © 2004 6th Edition.

2) University Physics 13th Edition, Young & Freedman.

3) Fundamentals of Physics 10th Edition, Halliday & Resnick

4) Physics for Scientists & Engineers with Modern Physics 4th Edition, Douglas C. Giancoli

5) All of the undergraduate level General Physics 1 books that include the above course content

Learning Outcomes and Competences

A student who successfully completes the course is expected to analyze the engineering problems in the course, develop solutions and gain application skills. Also,
•Defines, formulates and solves engineering problems related to the course, selects and applies appropriate analytical methods and modeling techniques for this purpose.
• Analyzes a system, system component or process and designs it under realistic constraints to meet the desired requirements; In this direction, it applies modern design methods.
• Learn the accesses of information, uses databases and other information sources to solve engineering problems.

Course Weekly Plan

Week	Subjects	References	Learning Tasks
Week 1	ORIENTATION Coulomb's Law	ORIENTATION Serway & Jewett 9th Ed.	ORIENTATION Question-answer, discussion, sample problem solving
Week 2	Electric Fields	Serway & Jewett 9th Ed.	Question-answer, discussion, sample problem solving
Week 3	Gauss's Law	Serway & Jewett 9th Ed.	Question-answer, discussion, sample problem solving
Week 4	Electric Potential	Serway & Jewett 9th Ed.	Question-answer, discussion, sample problem solving

Week 5	Electric Potential	Serway & Jewett 9th Ed.	Question-answer, discussion, sample problem solving
Week 6	Capacitance and Dielectrics	Serway & Jewett 9th Ed.	Question-answer, discussion, sample problem solving
Week 7	Capacitance and Dielectrics	Serway & Jewett 9th Ed.	Question-answer, discussion, sample problem solving
Week 8	Current and Resistance	Serway & Jewett 9th Ed.	Question-answer, discussion, sample problem solving
Week 9	Direct-Current Circuits	Serway & Jewett 9th Ed.	Question-answer, discussion, sample problem solving
Week 10	Direct-Current Circuits Mid-Term Exam	Serway & Jewett 9th Ed.	Question-answer, discussion, sample problem solving
Week 11	Magnetic Fields	Serway & Jewett 9th Ed.	Question-answer, discussion, sample problem solving
Week 12	Sources of the Magnetic Field	Serway & Jewett 9th Ed.	Question-answer, discussion, sample problem solving
Week 13	Sources of the Magnetic Field	Serway & Jewett 9th Ed.	Question-answer, discussion, sample problem solving
Week 14	Faraday's Law	Serway & Jewett 9th Ed.	Question-answer, discussion, sample problem solving
Week 15	Faraday's Law	Serway & Jewett 9th Ed.	Question-answer, discussion, sample problem solving

Teaching Methods and Techniques

Question-answer, discussion, sample problem solving, demonstration experiments

Course Rules and Expectations

Courses will be held face-to-face in the classroom specified in the department's curriculum.

To prevent failing due to absence, a minimum attendance rate of 70% is required throughout the 14-week semester.

Attendance at the course is mandatory for all students.

The documents, announcements, homework assignments, and other materials are shared via 'The Research Information System (AVESİS)'. To contact the lecturer, you can send email.

Assessment Criteria

** State the scores of the implementations (assignment, group work, project, midterm and quiz, etc.) in the course plan on the evaluation process.*

	Implementations	**Score**	**Percentage**
Midterm Exams	Midterm Exam	100	40%
Final Exam	Final Exam	100	60%
		Total	100%