

FIZ102E – Lecture 1

Electric Charge and Electric Field



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What do we cover today?

- 1) General remarks, course organization and aims
- 2) Electric charge
- 3) Conductors, insulators, and induced charges
- 4) Coulomb's law
- 5) Electric field and electric forces
- 6) Electric field calculations
- 7) Electric field lines
- 8) Electric dipoles

FIZ102E Electromagnetism

Course Overview

- Course web page:
<http://www.fizik.itu.edu.tr/physics-10x/>
- Attendance: 70% mandatory by university rules
- Homework: online, each week – first homework will be announced
- 20% of exam problems will be slightly modified homework problems → homework is important!
- Office hours (office location: FEB B4-212)
 - To be determined...

FIZ102E Electromagnetism

Course Overview

- First midterm exam: 25th March
- Second midterm exam: 29th April
- Final exam: 29th May – 9th June
- Letter grade weights:
 - homework – 10%
 - midterm exams – 25% each
 - final exam – 40%

FIZ102E Electromagnetism

Course Overview

- Electrostatic field, current, resistance – 5 weeks
- Review → 1st Midterm exam
- DC circuits, magnetic field, Faraday's law – 4 weeks
- Review → 2nd Midterm exam
- Inductance, electromagnetic waves – 2 weeks
- Review → Final exam

Honor code reminder

By signing below, I acknowledge that I have read and understand the “ITÜ Akademik Onur Sözü” available at

<http://www.sis.itu.edu.tr/tr/yonetmelik/AkademikOnurSozuEsaslar.html>

In particular, I hereby declare that:

- I will check my university e-mail regularly
- I will not give or receive any assistance during examinations
- The work I submit will be my own work
- I will sign an attendance sheet only once with my own signature

Course materials

Main text

- Young & Freedman: “University Physics – Vol. 2” (12th Edition)

OpenCourseWare (OCW)

- MIT: Physics II – Electricity and Magnetism (ocw.mit.edu)
- Yale: Fundamentals of Physics (oyc.yale.edu/physics)
- TÜBA - Açık Ders: Elektrik ve Manyetizma
(www.acikders.org.tr)
- METU (ODTÜ): Electromagnetic Theory (ocw.metu.edu.tr)