Course Syllabus

Course Name: Physics II
Course Code: Vp240

Course Pre-requisites
Phyiscs I or Honors Physics I; Applied Calculus III or Honors Mathematics III or equivalent

Textbooks
Hugh D. YOUNG, Roger A. FREEDMAN, *University Physics* (14th edition)

Instructor
Mateusz KRZYZOSIAK (m.krzyzosiak@sjtu.edu.cn)
Office: room 439C (JI building), Phone: 021-34206765 ext. 4393
Office hours: Wednesday 14.00-15.30 (439C), Friday 9.00-10.00 (weeks 6-12, this office hour will be held in SJTU Physics Lab building; room no. TBA); and by appointment.

Teaching Assistants
XIE Jinglei (email: xie_jinglei@sjtu.edu.cn; recitation class & office hours TBA)
GAN Bicheng (email: ganbicheng@sjtu.edu.cn; recitation class & office hours TBA)

Please check Canvas for a detailed schedule and classroom information!

Grading Policy

Homework (25%)
Midterm Exam I (25%)
Midterm Exam II (25%)
Final Exam (25%)

For this course, “B” is expected to be the median grade.

Lectures

Students are encouraged to read the relevant chapters in the textbook ahead of the lecture. Students are required to read and review the relevant chapters after the lecture. Lecture notes will be available on Canvas. Students are expected to attend lectures.

Recitation Classes

Weekly recitation sessions in smaller groups will be led by teaching assistants. Recitation classes will focus mostly on problem solving and discussion. Students are expected to attend and actively participate in the recitation sessions.

Homework

Homework will be assigned in the form of problem sets to be solved by each student individually. Problem sets will have a due date assigned, by which the homework has to be handed in for grading. Please plan your time well, late homework will be accepted with the following late-submission penalties: 20% for submissions after the due time but no later than 24 hrs and 40% for submissions 24-48 hrs after the due time. No credit will be given for homework submitted more than 48 hrs after the due time.

Exams

There will be two midterm exams and one final exam as listed in the class schedule. All exams are closed-book. The use of a non-electronic English-Chinese dictionary will be allowed during the exams.

Honor Code

Oral discussion of homework problems with other students is allowed and encouraged on the level of general ideas, not specific solutions. It is not allowed to show any written work to other students. If any references to academic textbooks or research journals are made, they should be properly identified with the bibliographical data. No references to Wikipedia entries are allowed.

Course description and detailed teaching schedule

Physics II (Vp240) is the second part of the two-semester honors course in general physics and focuses on electromagnetism, including elements of wave optics. The aim of this course is to present the fundamental laws of electromagnetism and illustrate them in applications.

Tentative Teaching Schedule

week	date	topic	textbook(s) sections
1	Sep 9–13	Electric Charge and Electric Field	Y21
2	Sep 16–20	Gauss's Law	Y22
3	Sep 23–27	Electric Potential	Y23
4	Sep 30–Oct 4	Capacitance and Dielectrics/Holiday	Y24
5	Oct 7–11	Electric Field in Matter. Current, Resistance, and Electromotive Force.	Y24, Y25
6	Oct 14–18	Current, Resistance, and Electromotive Force. Direct-Current Circuits **First Midterm Exam**	Y25, Y26
7	Oct 21–25	Magnetic Field and Magnetic Forces	Y27
8	Oct 28–Nov 1	Sources of Magnetic Field; Magnetic Field in Matter	Y28
9	Nov 4–8	Electromagnetic Induction Maxwell's Equations	Y29
10	Nov 11–15	Maxwell's Equations **Second Midterm Exam**	Y29
11	Nov 18–22	Inductance Alternating Current	Y30 Y31
12	Nov 25–29	Electromagnetic Waves Light: Polarization, Reflection and Refraction	Y32, Y33
13	Dec 2–6	Elements of Wave Optics: Interference and Diffraction	Y35/36 (part)
14	Dec 9–13	**Final Exam**	

Y – Young & Freedman textbook