

ELECTRICITY & MAGNETISM

PHYS 272: SECTION 3

Fall 2023

Instructor:	Alex Dvornikov	Time:	TR 10:30 – 11:45 am
Email:	olexiy@hawaii.edu	Place:	WAT 112
Office:	WAT 433		

Welcome!

We will explore electrostatics & magnetostatics, circuits, and light.

As we progress, I hope that you will see the profound importance and ubiquity of physics and have fun.

Office Hours: Tuesdays, 3 – 4 pm and Wednesdays, 1 – 3 pm at WAT 421, or by appointment.

Textbook: Young & Freedman, *University Physics 15th Ed.*

Grading: Your overall grade will be curved.

Homework (30%), Quizzes (15%), Midterm 1 (15%), Midterm 2 (15%), Final (25%).

Homework: Weekly online problems, assigned on **Thursday** and due the following **Thursday** at midnight, given through Pearson Mastering Physics. The lowest grade will be dropped. See the *Mastering Physics Access Code* document on Laulima for our class access code.

Quizzes: On Laulima each **Thursday** with topics chosen from that week.

Exams: There will be two midterms (**9/21, 10/26**) and a final (**12/14, 7:30 - 9:30 am, Room TBA**).

Extra Credit: Up to 15%.

10% for *optional* written assignments distributed every 3 weeks (due a week later).

5% for attending Physics or Astronomy colloquia (announced [here](#) and [here](#)).

Hand in a picture of the Introduction and Conclusion slides and a paragraph summary in your own words.

Academic Honesty: All incidents will be reported to the department chair and dean. Lack of knowledge of the academic honesty policy is not a reasonable explanation for a violation.

Schedule

Week 1 (8/22, 8/24): Ch. 21 – Electric Charge & Electric Field

Week 2 (8/29, 8/31): Ch. 22 – Gauss's Law

Week 3 (9/5, 9/7): Ch. 23 – Electric Potential

Week 4 (9/12, 9/14): Ch. 24 – Capacitance & Dielectrics

Week 5 (9/19, **9/21**): Ch. 21-24 Review, **Midterm 1**

Week 6 (9/26, 9/28): Ch. 25 – Current, Resistance, Electromotive Force

Week 7 (10/3, 10/5): Ch. 26 – Direct Current Circuits

Week 8 (10/10, 10/12): Ch. 27 – Magnetic Field & Magnetic Forces

Week 9 (10/17, 10/19): Ch. 28 – Sources of Magnetic Field

Week 10 (10/24, **10/26**): Ch. 25 - 28 Review, **Midterm 2**

Week 11 (10/31, 11/2): Ch. 29, 30 – Electromagnetic Induction & Inductance

Week 12 (11/7, 11/9): Ch. 31 – Alternating Current

Week 13 (11/14, 11/16): Ch. 32 – Electromagnetic Waves

Week 14 (11/21, 11/23): Thanksgiving Break – No lectures

Week 15 (11/28, 11/30): Ch. 33 – The Nature and Propagation of Light

Week 16 (12/5, 12/7): Ch. 34, 35 – Geometric Optics

Week 17 (**12/14**): **Final, 7:30 - 9:30 am**, Room TBA