

Physics 272

General Physics II

Instructor: Jason Kumar
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Class meets:

T Th 10:30am -11:45am -- PSB 112 (when in-person)
Office Hours: Th 12:00pm – 1:00pm – WAT 436 (when in-person)

When meeting via Zoom

Link: <https://hawaii.zoom.us/j/91708859018?pwd=Vi9tVkpXekZ5dnRUQ0I3UkQvYzFmUT09>

Meeting ID: 917 0885 9018

Passcode: phys272

Required Textbook:

University Physics with Modern Physics, 15th Edition, Young and Freedman

Homework and exams will be conducted online through *Mastering Physics*

- Go to this course in Lulima
- Go to “Vitalsource for IDAP” tool and get access code
- Create a student account at Pearson, if you don’t already have one (<https://mlm.pearson.com/northamerica/masteringphysics/>)
- Add this course: kumar66998

Topics to be covered:

Electric Charge, Electric Forces, Electric Fields, Electric Dipoles and Coulomb’s Law (Ch. 21)

Electric Flux, Gauss’ Law and its Applications, Symmetry (Ch. 22)

Electric potential and potential energy, and applications (Ch. 23)

Capacitance, Capacitors in Circuits, Dielectrics (Ch. 24)

Current, Resistance, Electromotive Force, Energy and Power in Circuits (Ch. 25)

Direct Current Circuit Analysis and Applications, Kirchhoff’s Rules (Ch. 26)

Magnetic Fields and Forces, Applications (Ch. 27)

Biot-Savart Law, Ampere’s Law, Applications, Magnetism in Materials (Ch. 28)

Faraday's Law, Lenz's Law, Maxwell's Equations, Applications (Ch. 29)

Inductance, Energy in a Magnetic Field, RL-LC-LRC Circuits (Ch. 30)

Alternating Currents, Phasors, Driven LRC Circuits, Applications (Ch. 31)

Electromagnetic Waves, Poynting Vector (Ch. 32)

Nature and Propagation of Light, Reflection (Ch. 33)

Geometric Optics (Ch. 34)

Student Learning Outcomes:

- 1) An introductory conceptual understanding of the phenomena of electricity and magnetism
- 2) An introductory ability to solve quantitative problems in electricity and magnetism

Grading:

The course grade will be based on homework and exams

~15% -- recitation

~15% -- homework

~70% -- Midterm 1 (20%), Midterm 2 (20%), Final (30%)

The grading scheme will be roughly as follows:

A+	~> 95%
A	~90-94%
A-	~85-89%
B+	~80-84%
B	~75-79%
B-	~70-74%
C+	~65-69%
C	~60-64%
C-	~55-59%
D+	~50-54%
D	~45-49%
D-	~40-44%
F	~<40%

The grading scheme may be modified slightly, based on performance.

Tentative schedule

Midterm 1:	Feb. 3, 2022	10:30-11:45am
Midterm 2:	Mar. 10, 2022	10:30-11:45am
Final:	May 10, 2022	9:45-11:45am