

Physics

2025–2026 Academic Year

Instructor Information

Instructor: Jan Bierowiec

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Office Hours: Mo 3:00–3:30, Tu 3:00–3:30, Th 3:00–3:30, Fr 3:00–4:00

Course Description

Physics governs our universe. In this introductory, algebra-based course, students will learn the secrets of the universe. We will begin with the study of classical mechanics and progress through electrical circuits by the end of the year. The course focuses on developing critical thinking and reasoning skills through the investigation of physics topics.

Investigations will take a variety of forms: problem-solving, hands-on inquiry, and self-directed research.

Learning Goals

Students will:

1. Develop scientific inquiry skills.
2. Analyze motion using kinematics.
3. Apply Newton's Laws to dynamics problems.
4. Use conservation laws (energy and momentum).
5. Solve problems involving electrostatics and electrical circuits.

Class Policies

1. Be responsible.
2. Be respectful.
3. Communicate.
4. Your work must be your own.

Required Materials

- Calculator
- Pencil (or erasable pen)
- Notebook (all notes must be handwritten)
- Folder or binder for handouts (recommended)

Course Structure

Daily Quizzes: Every class begins with a brief 5-minute quiz reviewing the previous lesson.

Notes: Class slides will be posted prior to each test for review (not after each class period). If absent, obtain notes from a classmate and schedule a review meeting.

Investigations: Learning includes problem-solving, hands-on inquiry, laboratory investigations, and research projects.

Grading Breakdown

Tests	40%
Lab Work & Projects	30%
Homework	20%
Daily Quizzes	10%

Late Work Policy

All work is due at the start of the class period for which it is assigned. Missing or incomplete work will be penalized 10% per day unsubmitted.

Major Topics

- Scientific Inquiry
- Kinematics
- Dynamics
- Circular Motion & Gravitation
- Energy & Work
- Momentum & Impulse
- Electrostatics
- Electrical Circuits

Communication Expectations

Students are responsible for:

- Checking myLS regularly
- Obtaining notes if absent
- Communicating early regarding academic concerns