Physics, Part 2 (PHSCS-043)

Physics, Part 2 Syllabus

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Course Description

An engaging and highly interactive course where students consistently perform experiments, gather and analyze data, and draw conclusions. This course covers momentum, energy, power generation, gravity, and electrostatics. This is the second of a two-part series.

Prerequisites

Algebra, Part 1, or equivalent. It is recommended, but not required, that students take Physics, Part 1 prior to taking this course.

Course Materials

A spreadsheet program is needed. Some activities use common household items. A virtual option is available if the needed items are not available.

Course Policies

For information about resubmitting assignments, retaking exams, how long students are given to complete the course, and other questions, please contact the AK Grad instructor.

Due Dates

There are no due dates in the course. A pacing guide can be found in the course which gives a suggested timeline for completing the course.

Course Outcomes

As students complete the course assignments, they will increase their knowledge, improve a 21st-century skill, and develop an attribute.

Knowledge: Physics

In this course, *knowledge* refers to the subject matter and content students will learn while completing the readings, practices, quizzes, and assignments.

On successful completion of this course, students will be able to do the following:

1. Use conservation of momentum to design a way to minimize impact force in a collision.
2. Track and calculate energy transfer within a system.
3. Design an efficient power generation system.
4. Calculate electromagnetic and gravitational fields.

21st-Century Skill: Creativity—Idea Design and Refinement

As students complete this course's assignments, they will gain skills in *Idea Design and Refinement*. This skill is part of Creativity.

Attribute: Respect

This course focuses on developing the attribute of *respect* in the context of Physics.

Grading and Assignments

The letter grade in this course will be based on these assignments and exams.

Assignments and Exams

Assignment or Exam	Grading	**Percent of Total Grade**
Assignments and Content Guides	Teacher-Graded and Computer-Graded	40%
Homework	Computer-Graded	20%
Unit Quizzes and Midcourse Quiz	Computer-Graded	20%
Final Exam	Computer-Graded	20%

Assignments and Content Guides

Instructor-graded content guides, labs, reflections, and projects give students the opportunity to show how well they are meeting the course outcomes. There are also some computer-graded labs included.

Homework

Homework assignments are computer-graded and cover the material from the lessons. These can be taken multiple times, and the highest score is kept.

Unit Quizzes

Unit quizzes are computer-graded and cover the material from the modules in the unit. Ungraded practice quizzes will help the student prepare for the unit quizzes.

Midcourse Quiz

This computer-graded quiz will cover the material up to the midcourse quiz. The questions on the midcourse quiz will be similar in format to the questions on the final exam. An ungraded practice midcourse quiz will help the student prepare for the midcourse quiz.

Final Exam

The final exam covers material from the entire course.

Course Grade

The letter grade will be calculated according to these percentages.

Percent to Letter Grade Calculation	
A	100%–93%
A–	<93%–90%
B+	<90%–87%
B	<87%–83%
B–	<83%–80%
C+	<80%–77%
C	<77%–73%
C–	<73%–70%
D+	<70%–67%
D	<67%–63%
D–	<63%–60%
F (fail)	<60%–0%