



# Physics

---

Insert Teacher Name

Insert Room Number

Insert Full Year/Semester

Insert Period

Insert Email Address

## COURSE DESCRIPTION

---

Physics is a year-long, laboratory-based, college preparatory course that integrates Physics, Engineering, and Earth Science concepts and meets the expectations of the Next Generation Science Standards. Students will be asked to use evidence, evaluate claims, and develop models to interpret the seen and unseen and design solutions to real world problems. Each unit begins with a phenomena or design challenge to develop understandings of core science ideas. Topics include: Forces and Motion, Momentum and Energy Conservation; Energy and Forces in the Geosphere; Gravity, Orbits & Planetary Formation; Waves and Information Transfer Technologies; and Stars and the Origin of the Universe.

## COURSE OBJECTIVES

---

Students will understand:

- The total momentum of a system of objects is conserved when there is no net force on the system.
- Energy is understood as a quantitative property of a system that depends on the motion and interactions of matter and radiation within that system, and the total change of energy in any system is always equal to the total energy transferred into or out of the system.
- The energy associated with the configuration of particles can be thought of as stored in fields.
- Stars are fueled by nuclear fusion which emits electromagnetic radiation and causes the formation of many elements.
- Wave properties and the interactions of electromagnetic radiation with matter can transfer information across long distances as well as store information.
- Engineering and technology play a large role in obtaining and analyzing the data that support the theories of the formation of the solar system and universe.

## UNITS OF STUDY

---

Unit 1: Designing Flying Machines: Newton's Laws of Motion

Unit 2: Rocket Design: Energy, Momentum, and Conservation

Unit 3: The Solar System: Gravity, Orbits, and Planetary Formation

Unit 4: The Inner Planets: Waves and Plate Tectonics

Unit 5: Energy from Stars: Where is the best place to look for life around other stars?

Unit 6: Exploring The Universe: Technology

## COURSE POLICIES AND REQUIREMENTS

---

### GRADING (see FPS BOE [Policy 6154.1AR](#))

#### o Cumulative/In-Progress Grade:

10% of the grade will be based on formative assessments, homework completion, and/or behavior

90% will be based on summative assessments, of which there will be a minimum of eight for this full-year course; these may include Unit Tests, Mid-Unit Tests, Projects, Performance Tasks, Summative Quizzes, etc.

#### o End-of-the-Year Grade:

80% of the overall course grade will reflect the student's mastery of course content and skills during the school year through the Cumulative/In-Progress Grade

10% of the End-of-the-Year course grade will be based on the Mid-Year Assessment

10% of the End-of-the-Year course grade will be based on the Final Assessment

- 
- o Grade Reporting:
    - All grades will be communicated through Infinite Campus
    - Summative assessment results will be reported back to the student within ten school days from the date of submission or the due date
  - o Guidelines for Late Work:
    - Late work will be accepted for both summative and formative tasks within a defined timeline agreed upon between the student and the teacher
    - The total points may be reduced as a penalty for late work
  - o Reassessments:
    - Any extenuating circumstances may be discussed with administration to allow alternative reassessment opportunities with administrative approval.
    - Reassessment opportunities are defined as twice per year (with a maximum of one per quarter) for assignments that students met the original required deadlines and do not violate the academic integrity policy. Reassessment does not apply to midyear assessments or final assessments.
    - Gradebook impact of Reassessment: original and reassessment scores will be averaged in the gradebook.

## MATERIALS

Click or tap here to enter text.

## EXPECTATIONS OF STUDENTS

Click or tap here to enter text.

## EXTRA HELP

Insert Course Expectations Here