

## **Advanced Physics**

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### **Course Description**

The purpose of this course is to provide students with the tools needed to understand the behavior of the physical world. First semester we will look at mechanics. The second semester students will experience wave mechanics, the study of sound, optics, electricity and magnetism. The course will be organized so as to allow current topics to draw on concepts acquired in previous topics. This will allow you to see the study of physics as a unified approach to explaining and predicting the behavior of your world, rather than as a collection of unrelated topics.

Advanced Physics is a hands-on, inquiry-based course, with heavy emphasis on lab and project work. Applications of the lab and homework problems will be incorporated into the various projects assigned through out the semester.

### **Student Assessment**

Assessment in Advanced Physics will consist of written exams, laboratory reports (both group and individual), quizzes, homework, and oral presentations.

Grade categories will be weighted as follows:

- 10% Class Participation (homework, worksheets, activities)
- 10% Quizzes (Formative assessment for each chapter)
- 20% Projects/Lab work
- 40% Unit Exams (Summative assessment for related chapters)
- 20% Multiple Choice Final

Grading Scale of 100-90 A, 89-80 B, 79-70 C  
Grades can be accessed through PowerSchool.

### **Expectations**

The absence and tardy policy in the student handbook will be adhered to. Ten minutes tardy denotes an unexcused absence.

### **Outcomes**

Students will demonstrate the ability to apply the concepts of mechanics they have discovered in lab to solve real-world problems.

Students will demonstrate the ability to connect current topics with topics previously learned in this and other courses.

Students will be able to inquire into questions about engineering and physics that interest them and present topics to their peers.