

## **Advanced Physics**

### **Instructors**

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Course information and photos can be found by going to the Advanced Physics link on the IMSA Science web page <http://www.imsa.edu/learning/acprograms/science/>.

### **Course Description**

The purpose of this course is to provide students with the tools needed to understand the behavior of the physical world. Semester one is a study of mechanics, including two dimensional and rotational motion. The second semester topics of study include wave mechanics, sound, optics, electricity and magnetism. This course is presented in a manner that displays the study of physics as a unified approach to explaining and predicting the behavior of the 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:

20%	Projects/Lab work
10%	Quizzes/Lab Practicals (Formative assessment for each chapter)
40%	Unit Exams (Summative assessment for related chapters)
10%	Class Participation (homework, worksheets, activities)
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 through hands-on projects.