Montclair High School
Course Syllabus

Department: Science
Course: Physics
Level: Honors
Credits: 6

Course Description:
This is a course for juniors and seniors who are interested in science. Classes meet six times a week (one double lab and four lectures). Topics covered include measurement, vectors, motion, force, energy, light, sound, electromagnetism and modern physics. This course emphasizes the use of advanced algebra and trigonometry to solve problems and analyze data. Strong math and problem solving skills are therefore a necessity and it is strongly recommended that students enrolling in this course first successful completed courses in algebra and geometry. It is also recommended that the student have maintained at least a 'B' average in their math courses.

Standards:

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Anchor Text(s):

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Supplementary Materials:
We will use a classroom set of books when necessary. Students who wish to sign out a textbook for an extended period will be able to do so.

Supplemental Resources and Problem Sets will be given with each unit.

Units of Study:
- Basic Unit Conversion
- Motion: Position, Velocity & Acceleration
- Vectors
- Force: Newton’s Three Laws of Motion
- Momentum & Energy
- Equilibrium
• Simple Harmonic Motion
• Universal Gravitation
• Geometric Optics
• Waves & Sound
• Electricity & Magnetism

Proficiencies:
By the end of this course, students will:
• Use geometric, algebraic and physical models to explain and predict outcomes for systems listed in the following proficiencies.
• Use instruments and data collection methods normally available to high school students to collect, organize and analyze data.
• Develop problem-solving techniques while conducting inquiries.

Evaluation & Assessment:
Marking period grades will be determined by:
• Test & Quizzes 60%
• Labs & Projects 30%
• Homework & Classwork 10%

The final grade will consist of each marking period (22.5% each), the cumulative midterm exam (5%) and the cumulative final exam (5%).

Prior to beginning any lab activities, all students must have submitted a Safety Contract, which has been duly signed by both the student and their parent/guardian. The teacher will keep this contract on file for the duration of the course.