Physics Courses Explained

Physics I: Physics I is a high-school level physics course. Topics covered in this course include Newtonian Mechanics, Electromagnetic Theory, Waves, Optics, and Nuclear Physics. Advanced Math Plus as a pre or co requisite is recommended. This is an accelerated class.

AP Physics 1 and 2: The Advanced Placement Physics 1 course is an algebra-based course in general physics. It is equivalent to an introductory algebra-based university level physics course. Course topics include only Newtonian Mechanics. The AP Physics 2 course covers Fluid Dynamics, Thermodynamics, Electromagnetic Theory, Optics, and Nuclear Physics. Advanced Math Plus should be considered a pre or co requisite.

AP Physics C: The Advanced Placement Physics C course is a **calculus-based** course in general physics. It is equivalent to a pre-engineering, introductory, university level physics course. Course topics include Newtonian Mechanics. Calculus is not listed as a co requisite on the course sheet the school gives but should be considered as necessary. We also offer part 2 of this course which covers electricity and magnetism.

Pre- and Co- Requisites

- **Physics I**—Algebra II is a pre-requisite, Advanced Math Plus is a recommended co-requisite. Chemistry is a pre- or co-requisite.
- **AP Physics 1 and 2**—Chemistry is a pre-requisite, and Advanced Math Plus as a co-requisite is highly recommended. It is also highly recommended that you have AP Physics 1 before enrolling in AP Physics 2.
- **AP Physics C**—Advanced Math Plus is a pre-requisite, and Calculus (any) as a co-requisite is highly recommended. It is also highly recommended that you have AP Physics C—Mechanics before enrolling in AP Physics C—Electricity and Magnetism

Course Codes on Tri-Fold Course Sheet

260629	Earth and Space Science		1	
400820	Physics I*		1	Algebra II, Chemistry, or be enrolled in Chemistry
400826	Physics, Advanced Placement I**		1	Chemistry and completion of Algebra III or higher Math course
400827	Physics, Advanced Placement II**		1	Physics I or Physics I Advanced Placement
400841	Physics C-Electricity and Magnetism Advanced Placement		1	Chemistry and completion of Algebra III or higher Math course
400861	Physics C-Mechanics, Advanced Placement		1	Chemistry and completion of Algebra III or higher Math course
260502	Biomedical Research*		1	Biology I and Chemistry

- Physics I, the accelerated high school level class, is 400820
- AP Physics 1, the algebra-based college level course, is 400826
- AP Physics 2, the second part of the algebra-based college level course, is 400827
- AP Physics C—Mechanics, part 1 of the calculus-based college level course, is 400861
- AP Physics C—Electricity and Magnetism, part 2 of the calculus-based college level course, is 400841

PHYSICS FACT SHEET

1. No physics class at Madison Central requires pre-course summer work.

2. Every physics course requires a laboratory notebook to be kept (and brought to class) throughout the course.

3. Physics 1, the high school course, is accelerated and has a 5% weight.

4. AP Physics 1, 2, C—Mechanics, and C-Electricity and Magnetism are Advanced Placement courses and have a 10% weight.

5. All 5 of the physics courses will prepare students for college.

6. All 5 of the physics courses are taught in a quantitative way—they are all more or less math heavy.

7. I, of course, review and teach math concepts that are required for problem solving, but I will assume that the students in the AP classes are already comfortable with algebraic concepts, and I will assume that the students in the calculus-based classes in particular are already comfortable with trigonometric concepts.