

Proposal to add a new course:

COURSE TITLE: AP Physics C (Mechanics / Electricity & Magnetism)

PREREQUISITE: AP Physics 1, Calculus AB/BC (or concurrent?)

LENGTH: Year

OPEN TO: 12th grade

DESCRIPTION: AP Physics C is a calculus-based, college-level course designed for students who plan to pursue degrees in a science or engineering discipline.

Topics in the **Mechanics** portion include Kinematics, Forces, Energy, Momentum, Torque, and Oscillations.

Topics in the **Electricity & Magnetism** portion will include Electric Charges & Potential, Circuits including Capacitors, Magnetic Fields, and Electromagnetic Induction.

SEQUENCE:

COST: \$180 (Students will sit for TWO AP exams) \$4785 for classroom set of textbooks. (~\$6000 for textbooks & 6 year online access)

RATIONALE: Currently, AP Physics 1 & 2 are algebra-based physics courses. This means that students who are in science- or engineering-related majors in post-secondary institutions still need to take the Mechanics and Electricity & Magnetism courses due to their calculus-based requirements.

The recommendation for this course to be a “senior-only” with AP Physics 1 as a prerequisite is based on two main factors. The pacing of the course, in order to cover the material for TWO exams, will be rapid. Having prior knowledge from AP Physics 1 will allow students to refresh their understanding of the concepts along with their usage of their calculus skills. Secondly, the majority (if not all) of the students who will enroll in this course will have completed either AP Calculus AB or BC, which will provide the prior knowledge to accommodate the level of calculus required in the course.

One option is to offer the Mechanics portion as a year-long course. The preference is to offer the Electricity & Magnetism course as well so the students could potentially earn credit for the first TWO required physics courses.

IMPLEMENTATION:

STAFFING IMPACT: No anticipated impact. Rebecca O'Sha (intended teacher) and Dylan Czajowski have the certification required.

Typically, one section of AP Physics 2 runs per year. The expectation is that we will run 1 to 2 sections of AP Physics C. There is not another course/department that is expected to “lose” students because of this science offering.
