

Which Physics Course Should I Take? LMSD Physics Courses

At Lower Merion high schools, there is a physics class for everyone.

<i>Course</i>	<i>Course Description</i>	<i>Who Is It For?</i>	<i>Recommended Coursework</i>
Physics	Physics is designed to provide students with a broad-based knowledge of physical phenomena with an emphasis on “real world” examples and application of concepts through experimentation. Topics studied include motion, Newton’s Laws, momentum, energy, gravitation, optics, waves, electricity and magnetism. This class covers most of the topics from the Physics H course, presented in a conceptual manner.	Physics is intended mainly for students whose major interests lie in fields other than science or mathematics. (Grades 10,11,12)	Successful completion of Chemistry & Integrated Math 2
Physics H	In Physics H, students will be encouraged to develop their ability to ask as well as answer questions in order to develop techniques of critical thinking. Topics studied will include motion, Newton’s Laws, momentum, energy, gravitation, optics, waves, electricity and magnetism. Students will be expected to perform experiments and write formal lab reports; these reports are intended to develop the students’ written communication skills.	Physics H is intended for students who enjoy science but are not certain that they will pursue science as a career. A student who takes Physics H can choose to take one of the AP Physics courses as a senior if desired. (Grades 10,11,12)	Successful completion of Integrated Math 2. It is recommended that students have earned a grade of “A” or “B” on assessments in Integrated Math 2.
AP Physics 1	AP Physics 1 is a challenging course, equivalent to a first-semester college course in algebra-based physics. Emphasis is on inquiry-based investigations and conceptual understanding as well as mathematical problem solving; the focus is on grasping the “big ideas” of physics and successful application of conceptual knowledge. AP Physics 1 covers more topics than AP Physics C: Mechanics at a less intense math level. These topics include Newtonian mechanics (including rotational dynamics and angular momentum), work, energy and power, mechanical waves and fluid dynamics. This course prepares students for the AP Physics 1 examination.	This course is for students who enjoy science and math and may be considering a future in science, especially the biological sciences. Some colleges will accept a score of 3, 4 or 5 on the AP Physics 1 exam for college credit. A student who takes AP 1 can choose to take AP Mechanics as a senior, if desired. (Grades 10,11,12)	Grade of A or B in Chemistry H and concurrent enrollment in an honors math class with Integrated Math 3 Completed.
AP Physics C: Mechanics	AP Physics C: Mechanics is equivalent to a first-semester college course in calculus-based physics. The physics teacher will teach the calculus required in the course. Topics will include kinematics, Newton’s Laws, momentum, energy, rotational kinematics and dynamics, and simple harmonic motion. Students will be expected to perform experiments and write formal lab reports. These reports are intended to develop the students’ written communication skills. This class is designed for students who wish to be prepared for further study of science or science related disciplines. Completion of the course prepares students for the Advanced Placement Physics C: Mechanics Examination. AP Physics C: Electricity and Magnetism is the second-year course offered in LM schools; it is strongly recommended that AP E&M students first complete the C: Mechanics course.	This course is for students who excel at math and may be considering a future in science, especially the physical sciences – physics, chemistry, engineering etc. Some colleges will accept a score of 3, 4 or 5 on the AP Physics C: Mechanics exam for college credit. (Grades 11,12)	Grade of B+ or better in Chemistry H. Successful completion or co-enrollment in Precalculus H or Calculus is required; AP Calculus is recommended.

