



COURSE DESCRIPTION

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Physics Essentials

AP, IB and other higher level Physics classes take a broad yet intensive look at the topics which explain fundamental physical phenomena, and often many students struggle to develop a firm foundation of the fast-moving subject. The topics build consistently on one another, and schools teach them with a wide array of approaches, often leaving students with a general idea of the topics but sometimes without a firm grasp of the details. Mercer Education's **Physics Essentials** fully embraces the foundational subtleties of the physics worldview to give students the best opportunity to understand physics at a more comprehensive level. Every idea is explained, and theorems are related to practical applications and standardized test problems. For many students this will be the first time they are exposed to methodological exactitude of physics, and we take this into consideration in our in-class discussion and exercises.

This class runs throughout the school year. As with ME's other group classes, it is invoiced in 2-month increments, and students may enroll at any time and remain in the class as long as they wish. The curriculum will systematically cover the topics of high school physics (e.g., AB 1 and 2, IB, and some topics not on the AP test) between September and March, and the months of April and May will focus on review and AP/IB test prep as the AP and IB tests usually fall in early May. Subsequent classes will cover other advanced topics for those who are interested and spend more time addressing school subject-based topics. In general, discussions of later concepts will incorporate the knowledge of previous ones, so, although students may enroll at any time, it is recommended that they start at the beginning.

In the class, students will be expected to complete a weekly handout designed to cement their understanding of the week's work as well as prepare them for the following week's concepts and assignments. They will also be assigned a standard array of physics problems from a workbook, which may vary based on their respective needs, along with a quiz to check on their current understanding. Students will have opportunities to address questions from their school classes, which will help determine the focus of this course.

This course is intended for students who wish to...

- Supplement their current physics class by developing a stronger foundation and receiving more individual attention and opportunities to ask questions than most high school classes can provide.
- Review physics topics they've already learned. It is very common for students to finish a physics class with a general understanding of the topics but not the specifics. Students who have already taken physics can develop stronger fundamentals to prepare them for college STEM courses as well as upcoming AP Physics I, Physics II and IB tests.
- Prepare for next year. ME's **Physics Essentials** requires only general knowledge of physics from foundational classes, so highly motivated students can take it to be well prepared for a future advanced physics class.

COURSE HIGHLIGHTS

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| ▶ Meets weekly via Zoom on Saturdays or Sundays | ▶ Runs from September through June |
| ▶ Class Time: TBD based on student availability | ▶ Sign-up Deadline: "first come, first serve" |
| ▶ Approximately 2 hours (1'50") per class | ▶ Limit 8 students per class |
| ▶ Rolling Admission, Invoiced in 2-month sessions | ▶ Cost: \$55 per class |

Enrollment in ME's **Physics Essentials** is limited to no more than 8 students. In order to facilitate scheduling, please complete ME's *Application for Enrollment*, listing the time slots on Saturdays and Sundays when you/your child will be available to attend. We will determine the class schedule (weekends, details TBD) as quickly as possible at the start of September based on student availability and update students and their parents regarding the schedule as soon as we can.