

Summer Assignment for AP Physics C, 2021-2022

Instructor's Name: Claire Anton

Instructor's contact information: Students may feel free to email me with any questions that arise: ceanton@fcps.edu. I will only periodically be checking this email so do not become concerned if I do not respond within a few weeks.

Purpose of Assignment: AP C is a calculus-based physics course. It builds upon the prior physics knowledge but provides greater depth and different analysis skills than the algebra-based AP Physics 1 course. In order to be ready for the start of term, I am asking you to brush up on your calculus. This should be a simple review, but if it is not, that is fine. I will include some support materials that you can use to help you get through the packet.

Estimated time to complete Assignment: This assignment is estimated to take 5-6 hours.

Due Date & Method of Assessment: In order to best retain and apply important objectives, the summer assignment must be completed before the first Tuesday of school, Fall 2022. The review material and the online problems will cover all of the math you will need for this year's course. The review problems do have notes if you get stuck.

Instructions for assignment:

1. Math Review Packet

The Math review packet enclosed with this document, is part of the material available with the physics textbook. It is one that should help you review for the math that is necessary to be successful in the AP Physics C course. Please read and take notes on the math packet. Solve the problems on the following review problems on the pages until you feel comfortable. There are solutions on each page.

- a) Differentials: <https://tutorial.math.lamar.edu/Problems/Calcl/DiffFormulas.aspx>
- b) Exponential and Log Functions: <https://tutorial.math.lamar.edu/Problems/Calcl/DiffExpLogFcns.aspx>
- c) Chain Rule: <https://tutorial.math.lamar.edu/Problems/Calcl/ChainRule.aspx>
- d) Indefinite Integrals: <https://tutorial.math.lamar.edu/Problems/Calcl/IndefiniteIntegrals.aspx>
- e) Substitution Rules: <https://tutorial.math.lamar.edu/Problems/Calcl/SubstitutionRuleIndefinite.aspx>
- f) Definite Integrals: <https://tutorial.math.lamar.edu/Problems/Calcl/DefnOfDefiniteIntegral.aspx>
- g) Computing Definite Integrals: <https://tutorial.math.lamar.edu/Problems/Calcl/ComputingDefiniteIntegrals.aspx>
- h) Substitution for Definite Integrals: <https://tutorial.math.lamar.edu/Problems/Calcl/SubstitutionRuleDefinite.aspx>
- i) Work Practice Problems: <https://tutorial.math.lamar.edu/Problems/Calcl/Work.aspx>

2. Collect Materials for AP Physic C: Binder & Supplies

Please collect the following supplies for AP Physics C:

- 2, 1½ or 2 inch binder (for unit sheets, notes, lab write ups, tests, etc.). One for Mechanics and one for E&M
- 6 binder dividers per Binder
- Lined or graph, hole-punched, loose-leaf paper (~100 sheets)
- Pen, pencil, eraser and a white-board marker
- Scientific calculator (need SIN, COS, and TAN functions – you do NOT need a graphing calculator, but they are nice).