

Text: *Physics for Scientists and Engineers: A Strategic Approach*, 4th edition. Knight – Pearson. 2019.
ISBN: 9780134779218 Replacement Cost - \$169.97

Course Description:

Advanced Placement Physics C is designed to prepare the student for the advanced placement examination. The AP Physics C exam is Tuesday afternoon, May 14, 2024. The AP exam provides students with the opportunity to earn college credit for courses taken in high school. The AP Physics C course covers the following topics in mechanics during the fall semester: kinematics; Newton's laws of motion; work, energy, and power; systems of particles and linear momentum; circular motion and rotation; and oscillations and gravitation. Topics dealing with electricity and magnetism are discussed during the spring semester. Calculus-based physics is included in this course. This course requires a conceptual application of physics in a problem-solving environment. It will be of benefit to those who plan to pursue degrees in engineering and the physical sciences. This course is meant to be equivalent to two semesters of calculus-based physics at the university level. You will take two separate exams and earn two separate scores.

Student Expectations:

Due to the pace of this course and the necessity to review and prepare for the AP exam, students should understand the need to spend time outside of regular school hours preparing for the AP exam. In addition, since students can receive college credit for this course, students will be expected to perform significant work outside of class, as would be expected of college students. Students are required to use a scientific (NON-GRAPHING) calculator on our assessments.

Behavior and Classroom Rules:

You are a young adult and responsible for yourself and your behavior. You are expected to act with respect toward anyone or anything with which you are involved. This includes but is not limited to your fellow students, teachers, other school personnel, classroom furniture, laboratory equipment and school property. Acting in such a manner will insure an enjoyable and productive classroom environment that can benefit all at Northview High School.

No food or drinks are to be consumed in the classroom with the exception of water, which should be in a container with a sealable top.

The use of cell phones in the classroom is prohibited unless you are instructed to do so by the teacher or have clearly asked for permission from the teacher. This is now a Fulton County Board Policy. Cell phones that are visible during class time without teacher permission will result in a disciplinary action that may include detention or office referral (in the case of multiple infractions).

Communication:

I have included my email address at the top of the syllabus as well as the school phone number to facilitate parental communication. Infinite Campus is an internet tool that can be used to access student grades. Please remember that grades will be entered upon completion of grading, which can take several days depending upon the nature of the assignment. Infinite Campus can be accessed via the link provided on the Fulton County Schools website. Canvas will also be used to support instruction.

Office Hours:

I usually arrive at school at 7:30 AM and depart at 4:00 PM. I am available most mornings and occasionally in the afternoons, but I do ask that students let me know that they will be coming by before or after school to avoid any potential conflicts. I am also available by appointment and during Titan Time.



Fall Semester Objectives:

- Unit 1: Measurement, One and Two-Dimensional Motion, Vectors (Chapters 1 through 4; 2 weeks)
Use of calculus including polynomial derivatives/integrals will be introduced
Minor Assessment – NO REDO
- Unit 2: Forces, Laws of Motion and Circular Motion (Chapters 5 through 8; 3 weeks)
MAJOR ASSESSMENT
- Unit 3: Energy of a System, Work and Conservation of Energy (Chapters 9 and 10; 3 weeks)
MAJOR ASSESSMENT
- Unit 4: Linear Momentum, Collisions and Center of Mass (Chapters 11; 2 weeks)
MAJOR ASSESSMENT
- Unit 5: Rotational Motion, Torque, Angular Momentum and Static Equilibrium (Chapter 12; 3 weeks)
MAJOR ASSESSMENT
- Unit 6: Universal Gravitation including Kepler's Laws of Planetary Motion (Chapters 13; 1 week)
Minor Assessment – NO REDO
- Unit 7: Oscillatory Motion (Chapter 15; 1½ weeks)
Minor Assessment – NO REDO

Spring Semester Objectives:

- Unit 8: Electric Charge, Fields and Forces (Chapters 22 and 23; 2 weeks)
Minor Assessment – NO REDO
- Unit 9: Gauss's Law; Conductors in Electrostatic Equilibrium (Chapter 24; 2 weeks)
MAJOR ASSESSMENT
- Unit 10: Electric Potential; Capacitance and Dielectrics (Chapters 25 and 26; 2.5 weeks)
Minor Assessment – NO REDO
- Unit 11: Current and Resistance; Circuits (Chapters 27 and 28; 2 weeks)
MAJOR ASSESSMENT
- Unit 12: Magnetic Fields; Sources of Magnetic Fields; Biot-Savart Law and Ampere's Law (Chapters 29; 2 weeks)
MAJOR ASSESSMENT
- Unit 13: Faraday's Law of Induction; Inductance (Chapters 30; 2 weeks)
MAJOR ASSESSMENT
- Unit 14: Maxwell's Equations (Chapter 31, sections 3 and 4; 1 week)
Minor Assessment – NO REDO

ALL MAJOR and Minor Assessments should be considered cumulative for the current semester. The Minor Assessments will be more focused on the specific content of the unit but may still require cumulative knowledge, as is the nature of physics in general. The time remaining prior to the AP Exam will be used to review. Students should begin reviewing on their own in March.

Please read **Grading FAQ #6** to understand how tests/quizzes will be addressed if you miss a published scheduled assessment.

Grading:	Major Assessments – shown above	55%
	Minor – includes classwork, labs, quizzes and projects	35%
	Practice – Mastering Physics, other graded work	10%

The above percentages have been established by Fulton County Board Policy.



Grading Scale:

A = 90 and above
B = 80 – 89
C = 70 – 79
F = 69 and below

Late Work Policy:

Much of the daily homework is handled through Mastering Physics. Typically, several days are given to complete assignments, so it is unlikely that a student should turn it in late. It is the student's responsibility to complete and submit their work online by the due date and time.

Work submitted after the due date but before the end of the unit will receive a 15% deduction. Work submitted after the end of the unit will receive a 25% deduction. This is Northview HS Policy.

Make-Up Work Policy:

Students are given the same number of days to complete make-up work as the number of days absent (not including the day of return). For instance, a student is absent two days, he/she has two days (not including the day of return) to complete the assignments. The teacher will establish a reasonable schedule for completing tests, labs, etc. that cannot be done independently by the student. This applies to all student absences, unexcused, excused, pre-approved, field trip, athletic and fine arts event, clubs/organizations, i.e....)

Assignments assigned prior to the absence, including tests/quizzes scheduled for the day of return, are generally due upon the student's return. Students who are present for any portion of the school day are expected to turn in all assignments due on that day to receive full credit.

Failure to complete make-up work within the designated time frame will result in a grade reduction and/or loss of credit for the assignment.

Late work will receive a grade of zero if not completed by the due date. All work submitted after the due date will receive 15% off the overall grade scored on the task (practice/major/minor). Students have until the end of the unit to clear the zero of the missing assignment. Work submitted after the end of unit deadline will be subject to a maximum of 25% deduction off the overall grade.

Northview High School Recovery Procedure:

All major assessments are eligible for recovery if they score below a 75%. One recovery attempt per major assessment. Recovery should occur before the next major assessment. Teachers may require that all missing work be submitted and/or students attend remediation session(s) prior to completing recovery.

If a student will be absent three or more days (including OSS), the student or parents will be instructed to contact the teachers directly via email. Any material that cannot be forwarded electronically from the teacher to the parent should be ready for pick-up in the front office at the end of the following day. (Please let the parents know that the material is there.) **There is a file cabinet in the teacher mailroom where material to be picked up will be stored. All materials should be clearly labeled with the student's first and last name and the teacher's name.**

Incompletes will be given at the discretion of the principal.

Infinite Campus – Student progress and performance can be viewed through Infinite Campus - [Infinite Campus / Program Overview \(fultonschools.org\)](#).



Honor Code:

As members of Northview High School, we honor academic and personal integrity. We uphold the values of honesty, integrity, respect, responsibility, and our mission is to instill excellence in academics.

Cheating has been defined as giving or receiving, in any form, information relating to a gradable experience including the use of sources of information other than those specifically approved by the teacher, either during or outside of class.

Examples of cheating include, but are not limited to, visual exchanges (cheat sheets, copying, open books or notes, writing on hands, shoes, or desks, calculators, submission of another student's work, etc.), and verbal, electronic or coded exchanges. Other examples include, but are not limited to, plagiarism, discussing tests with students who have not taken the test, copying homework assignments, not citing sources, etc.

Class Notebooks should be maintained and should include class notes, homework, classwork, lab reports and any other items relevant to AP Physics C.

We will also use an online homework service (Mastering Physics) that accompanies our textbook. I have found this to be a very effective means of assigning homework and allowing the students to have some degree of flexibility with their schedules. These problems should be completed in a neat and orderly manner on your own paper and organized in your class notebook. I will randomly verify that you have shown your work for Mastering Physics problems. Quizzes will be given that reflect the work done in the assignment. Make-up mastering physics quizzes will cover a wider range of problem types.

Cell Phone Policy:

Students may **not** use cell phones during class unless explicitly approved on a specific day for instructional purposes by the teacher.

- Upon entering the classroom, all students must place their cell phone in their assigned pocket # of the classroom's hanging cell phone holder
- Once placed in the cell phone holder, students may not access during class time without the explicit permission of the teacher on a specific day for instructional purposes
- If leaving the classroom to use the restroom, vending machine, etc., cell phones must remain in the classroom holder; students are **not** allowed to bring phones with them
- If a student refuses to follow school and district cell phone rules, the teacher should (1) remind the student of the rule, (2) notify the parent/guardian via email that the student is not following the rule, (3) assign a detention, and (4) submit a behavior referral to the appropriate administrator. At the administrator's discretion, the student's cell phone may be confiscated and returned only to a parent/guardian. Further disciplinary consequences may be assigned depending on the circumstances.

Northview High School Tardy Policy:

Students are expected to be in class and ready to begin work before the tardy bell sounds. Upon the first tardy to any class during a 9-week grading period, the teacher will review tardy policy with student.

Repeated tardiness to the same class will result in assignment of the following consequences:

- 2nd tardy: one day private detention with teacher and parent contact
- 3rd tardy: referral to administrator and one day of administrative lunch detention
- 4th & subsequent tardy: referral to administrator and after school detention (2 hours or more)

Tardies accumulate throughout each 9-week grading period. At the start of each new 9-week grading period, the tardy count restarts.

