

# Academic Physics Syllabus

## Program Description:

The academic program of study is designed to prepare students for college level work.

## Course Description:

In this course, we will explore the underlying, governing physical principles of our universe through the use of hypothesizing, observation, data gathering, and mathematical analysis.

Key topics to be discovered and discussed are as follows: data gathering and graphical analysis, mechanics, 1- and 2-dimensional kinematics, including Newton's Laws of Motion, statics and dynamics, conservation of momentum, work and energy conservation, properties of solids and liquids, thermodynamics, wave motion, and sound. If time permits, we will also do a cursory overview of electricity.

## Reference Textbooks:

- Textbook: Serway and Faughn, (2012) Holt Physics. Harcourt Publishing, \$96.70
- Textbook: Wolfe, G., Gasper, E., Stoke, J. et.al., (2015). College Physics: OpenStax.
  - <https://openstax.org/details/books/college-physics-ap-courses>

## Class Rules

Come to class **on-time**, **prepared** to learn and **stay** the entire time.

- 3 Ring Binder or Bound Notebook and Folder (**Required**)
- Scientific Calculator (**Required**)- **Not provided**
- District Chromebook
- (**Required**)Sharpened Pencil or Pen
- Homework Completed
- No Food and Drinks
- Plan to work bell to bell
- Do not interrupt class to go to the lav. You will be denied during the first or last 15 minutes of class
- Get the homework that you missed from a friend or e-mail me.
- Excessive absences will be grounds for credit denial and/or failure of the course, according to school district policy

**Respect** all people, property, and ideas

Do your very **best**!

Follow any **school rules** not addressed here but found in the student handbook including but not limited to:

- hall passes, signing out of classes, and attendance
- School Rules can be found at <http://www.npsd.org/images/stories/HSC/Docs/handbook.pdf>

## Consequences

Warning	30 seconds after class	Notify parents	Detention	Request Conference
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- If an action is severe enough, higher consequences can be taken.

NOTE:

Since this is a laboratory class, fooling around in the laboratory will not be tolerated. Any student who fools around in the lab will be removed from the lab, receive a failing grade on the current assignment and will receive an appropriate consequence. Students must follow the lab rules listed as lab safety rules.

## Grading Procedures

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Grading will be done on a percentage system with each graded assignment providing a specific number of points towards each category. A 65 % minimum average is needed to pass. Your grade will be comprised of:

- 65% Tests / Quizzes / Chapter outlines
- 15% Labs / Lab Quizzes
- 20% WebAssign / Homework / Class Assignments

Assignments may include:

### Tests / Quizzes (Announced and Unannounced)

3 or 4 test per quarter

- comprised of Problems, Concepts, Interpretation of lab, Understanding of relationships of equations
- I reserve the right to deny credit if data tables, equations, plugged in data, and a final answer with units is not shown.
- Students may earn up to 30% of the points they miss on their test back by completing a test correction procedure that will be outlined in the class.

All tests must be completed in the time provided. No extra time will be given unless previous permission has been granted.

If you are absent the day before a test and new information is presented for the test you are given 1 day to make up the test. If you are absent the day before a test and no new information is presented, you are still required to take the test.

If absent it must be made up promptly upon return or you will receive a zero. This means you may need to come during a study, lunch, before, or after school. It is your responsibility to schedule your makeup with Dr. Croom between 7:25 and 7:40 on the day you would like to make up the test.

Repeated absences on the day of tests may lead to the following consequences:

- Forfeit of extra credit opportunities
- You may be also given another version of the test where a given problem written in multiple choice format is replaced by an open-ended problem, where all work must be shown - the replacement problem may or may not be equivalent in complexity
- students being required to make up the test at the end of the quarter. During the last two weeks of the quarter, the instructor will open a window for make ups to take place. It is the responsibility of the student to find a time within this window to come and make up the test. If the student does not find a time to come and take it, they will have to take it during the class period.

### Labs

Formal labs must be typed and must follow lab report format.

- There will be a deduction of points for every day late
- After 3 days the lab becomes a ZERO
- Notebooking Labs (Informal Labs) will also be performed and will be weighted appropriately compared to Formal Labs.
- Lab Notebooks will not leave the classroom unless previous permission is given.
- Lab Notebooks will be checked approximately every 2 weeks.

### Reading Assignments

- Students will outline the new chapter. The outline of the chapter using the format taught in class will be handed in at the end of class 2 days after the previous chapters test.
- No extra time will be given unless previous permission has been granted.
- A quiz on the reading may be given as a spot check. In this case the student's notes can be used to answer the questions.

## Spot, Homework, and Announced Quizzes

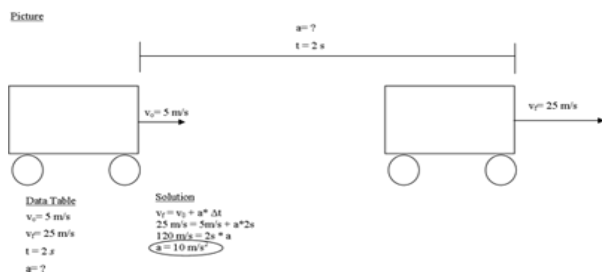
- Being absent the day before a quiz does not provide an exception from the quiz. Email your instructor, call a friend, read your chapter, practice your problems, determine what you missed.
- All quizzes must be completed in the time provided. No extra time will be given unless previous permission has been granted.

## Homework / WebAssign

- Homework assignments may or may not be graded. Students are expected to always come to class with their homework complete.
- Late homework WILL NOT be accepted
- It is the student's responsibility to complete their WebAssign problems by the beginning of the class in which it is due.
- Partial completed homework will be considered incomplete

**Example of a full credit homework problem:**

Problem: A car goes from 5m/s to 25m/s in 3s,  
What is the acceleration of the car?



## Class Participation

- Will be considered for borderline grades
- Students who miss more than 4 days of class total after the first quarter, 6 days total after the second quarter, 8 days after the third quarter, and 10 days after the fourth quarter will not be eligible for participation recognition

## Extra Credit

- Extra Credit if assigned will be given to the entire class. Extra credit assignments are not to be worked on in class and will be required to be handed in on the given day. No partial credit is given for extra credit.
- Some tests may have extra credit on them. Extra credit on a test can vary from extra reading assignments, recent news events, problems, or opinion statements.

## End of year research Paper

- Research papers will involve the research of physics topics and the creation of a presentation to demonstrate the learned concepts. Research papers will be graded like a test.

## End of year presentations

- Presentations will be graded according to a rubric handed-out before the beginning of the project. All areas discussed in the rubric need to be covered

## Final Exam

- There will be a final exam in this class the week before the AP exam for the entire class. The final exam will be based on the information required for the AP Physics 1 exam
- Unprepared for Class
  1. Students coming to class unprepared based on the rules above will lose up to 5 points from their test point total for each occurrence.
- Absenteeism and Grades
  1. Being in class on a regular basis is important. Many activities we do are not graded but are still part of the content you need to learn.
  2. If a student misses over 15 days of class during the year, the student may begin to see a reduction in their quarter class grade by 1 point for each additional day they miss.
  3. Any assignment you miss because of absence is your responsibility to make up. If after a week the assignment is still outstanding, it becomes a zero. This may require you to spend some time after school making up labs and projects.
- Additional Information
  1. Leaving the classroom in the middle of a test, quiz, or other formal assignment is not allowed. Take care of all personal issues before entering the classroom. A consistent pattern of leaving during an assignment will be viewed as giving the test taker an unfair advantage and points may be deducted. Follow the rules provided for the SATs found at [http://www.collegeboard.com/html/sat\\_terms\\_conditions.html](http://www.collegeboard.com/html/sat_terms_conditions.html)
  2. Proficiency in word processing and spreadsheet skills will be an ongoing process. Formal lab reports and certain assignments will require a certain proficiency using the Microsoft Office 2007 or later package, Google Sheet, and Google Docs which are readily available to all students on the NPSD Internet. Specifically, we will be using Microsoft Word and Microsoft Excel throughout the semester.
  3. It is the responsibility of the student to keep track of his/her grades. **Dr. Croom will not give grades out during the semester.** All grades will be posted on the school's Online grading program for you to check. If you question your nine weeks average, you must be able to provide evidence to support your claim. Keep your returned assignments until your grades are finalized.

## Final Course Grade

will be determined by the following system.

22.5%	of each quarters average
10%	Final Exam Score

## Academic Honesty

Your integrity should be very important to you. Copying homework or assignments is cheating, and when caught you will be given a 0%. Working together is different from copying. Any quiz, test or project you are caught cheating on will result in automatic 0% with no opportunity for a retake. I will give different versions of tests/quizzes and move students around during testing to ensure you are doing your own work. Ultimately however, it is you who must determine how you want to succeed, on your own merits or dishonestly through the work of someone else.

## Other Information

### Computer Responsibility

Students are responsible for paying for any damage to district computers that occurs while they are using them. To avoid being held liable for pre-existing issues, students must report any damage when signing out a computer.

Computers must always be returned to their original location when finished. Devices left out are at risk of accidental damage. Failure to return a computer may result in loss of computer privileges and/or financial responsibility for any damages.

## Calculator Replacement Cost

Model	Cost
TI-84	\$106.55
TI-30	\$12.60

Students must bring the same calculator to class every day. If your student does not own one, please borrow or purchase one right away.

A small number of calculators are available to borrow. Each borrowed calculator will be assigned to a student, who must keep it with them at all times. Calculators may not be left in the classroom.

If a calculator is lost, stolen, damaged, or not returned, the student must replace it with a brand new calculator of the same model (factory sealed) or pay the replacement cost. Students are also responsible for replacing batteries in borrowed calculators if needed.

All graphing calculators require batteries, and replacement may be necessary during the year.

Please sign and return the form on the last page to your student's physics teacher. Contact the teacher with any questions.

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## Publication / Picture Waiver

A picture of your student or work created by your student may be included in a classroom project. We may use the resulting project in one or more of the following ways:

1. Science Fair Projects
2. Use as a demonstration project/activity in educational workshops, classes, and/or conferences.
3. Use videos for the benefit of improving on classroom management techniques
4. Use portions of the videos during meetings dealing with your child.
5. Submit as samples to grant and contest entries for your child and/or the North Pocono School District.
6. Part of school projects that students might publish on the Internet.
7. Part of an article submitted to the district website or a newspaper about an activity your child participated in related to the school or the class

If you do not want your student's picture used please contact me by one of the means listed above.

# Lab Safety Rules (Your Copy)

This is to certify that I, \_\_\_\_\_, have been instructed in the following safety component of this science class:

1. By signing below, I verify that I have been informed where the following items are located and have been instructed on how to use the so named items:
  - Fire extinguisher
  - Fire blanket
  - Eyewash fountain
  - Safety shower
  - Exhaust hood
  - Chemical spill control kits
  - First aid kit
  - Eye protective devices (goggles)
  - Master shutoff for gas, electricity, and water
  - Heat sources (Burners, ovens, etc.)
2. I will not use any lab equipment, unless instructed on when and how to use such an item by my teacher. If I have any questions on how something works or need a refresher on how something works, I will ask the teacher in charge.
3. There will be no projectile motion in this class, unless instructed by the teacher to do so.
4. Special laboratory clothing shall be worn when dealing with labs that require clothing protection. These clothing items can include but are not limited to, closed toe shoes, glasses instead of contacts, safety goggles, lab jackets, long pants and gloves. Any students repeatedly failing to comply with this regulation may be removed from participation in class and receive an unsatisfactory grade.
5. I have been informed on the safety procedures for the following situations, and know that I must report the following situations as soon as possible to my teacher:
  - Fire
  - Chemical Splash to the body
  - Eye emergency
  - Chemical Spill
  - Broken Glass
  - Other injuries
6. I will follow all other safety rules in the class which will be posted which include but are not limited to
  - No running
  - No physical contact with others
  - No harassing others
  - No food, drinks or gum
7. I will be required to buy all the lab equipment I break in class. (Some of the lab equipment is in excess of \$500)

## Student Copy

### Procedures and Rules Acknowledgment

I, \_\_\_\_\_ (student's name) have read and agree to follow all the, policies, procedures, classroom rules, and lab safety rules set forth in the class syllabus found on my courses procedures page on [www.croomphysics.com](http://www.croomphysics.com). If I have a question about any portion of the syllabus, I will ask my teacher for clarification. I realize that I must obey these rules to ensure my own safety, and that of my fellow students and instructor. I will fully cooperate with my instructor and fellow students to maintain a safe classroom and lab environment. I will also closely follow the oral and written instructions provided by the instructor. I am aware that any violation of this safety contract that results in unsafe conditions in the laboratory, or misbehavior on my part, may result in being removed from the laboratory, receiving a detention, receiving a failing grade, and/or dismissal from the course.

\_\_\_\_\_  
Parent/Guardian Name (print)

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

Dear Parent or Guardian,

We feel that you should be informed regarding the school's effort to create and maintain a safe science classroom and laboratory environment. With the cooperation of the instructor, parents/guardians, and student, possible hazards can be corrected and prevented. You should be aware of all the policies, procedures, classroom rules, and lab safety rules your student will receive before engaging in class and laboratory work. Please read the list of these policies, procedures, classroom rules, and lab safety rules which are set forth in the class syllabus found on the Procedures page on [www.croomphysics.com](http://www.croomphysics.com). If you have any questions, please feel free to contact your student's teacher. No student will be permitted to perform laboratory activities unless this contract is signed by both the student and the parent/guardian and is on file with the teacher. Your signature on this contract indicates that you have read this syllabus and are aware of the measures taken to ensure the safety of your student in the science class and laboratory as well as the grading procedure and the student's responsibilities for the course. It is also expected that you will instruct your student to uphold their agreement to follow these rules and procedures in the class and laboratory.

\_\_\_\_\_  
Parent/Guardian Name (print)

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

# Information Sheet

Name(Student) ( First, Last,Preferred) \_\_\_\_\_

Contact Name (First, Last, Relationship) \_\_\_\_\_

Contact Phone Number \_\_\_\_\_

Contact e-mail address(parent) \_\_\_\_\_

Contact e-mail address(student) \_\_\_\_\_

- Questions

1. Are you color blind?

☐ Yes ☐ No

2.

3. Do you have an after school job?

☐ Yes ☐ No

☐ How many hours per week? \_\_\_\_\_

☐

- Record of Home Contact

- Do not write in this box

Date	Person	Medium

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 \_\_\_\_\_  
 Parent/Guardian Name (print)

 \_\_\_\_\_  
 Signature

 \_\_\_\_\_  
 Date

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 \_\_\_\_\_  
 Parent/Guardian Name (print)

 \_\_\_\_\_  
 Signature

 \_\_\_\_\_  
 Date

**Please return the signature sheet to Dr. Croom in Room 104**