ALAMO HEIGHTS HIGH SCHOOL

Pre-AP/GT PHYSICS 2017-2018

***Physics Teacher Contact Information:***

**Mr. Nicholson Room 294SB Work Phone: (210) 820-8850 ext. 1126**

**Email:** **jnicholson@ahisd.net**

**Tutoring:** Lunch Time or by appointment

**Resources:**

 **- Teacher Website:** [**http://ahhs.ahisd.net/cms/One.aspx?portalId=8287&pageId=156915**](http://ahhs.ahisd.net/cms/One.aspx?portalId=8287&pageId=156915)

**- Class Website:** [**http://coachnicholson2007.weebly.com**](http://coachnicholson2007.weebly.com)

**- Textbook: *Texas Physics***

***OVERVIEW:***

In this class you will learn about the physical world in the same way as scientists. You will discover and learn to describe relationships in nature through lab experiments and explore their applications to new situations. This will be a rigorous, math-intensive course, using algebra, trigonometry, and graphing skills. The topics covered in this course with approximate timelines are as follows:

**First Semester**

Introduction to Physics 1 week

1-D Kinematics 2.5 weeks

2-D Kinematics (with Vectors) 2.5 weeks

1-D Forces 2 weeks

2-D Forces 2 weeks

Universal Gravitation and Circular Motion 2.5 weeks

Energy 3 weeks

**Second Semester**

Momentum 2 weeks

Thermodynamics 1 week

Waves 2 weeks

Sound 2 weeks

Light Optics 3 weeks

Electrostatics 2 weeks

Electric Circuits 2 weeks

Magnetism 2 weeks

Quantum Mechanics 1 week

***SUPPLIES:***

It is essential that you show up to class prepared. The following materials are required for this class:

* Notebook paper OR spiral
* Pencils
* Scientific OR graphing calculator
* Tissue/Kleenex (if you would like to contribute to a class slush fund)
* Please let me know if you have any trouble obtaining these materials.

***ATTENDANCE****:*

The school-wide policy for attendance will be followed. (See policy on the school website or student handbook for information on how to excuse absences, etc. You must be PROMPT in excusing absences!) No work may be made up for unexcused absences (including tests!). If you know you will be absent, talk to the teacher during class BEFORE your absence. If you are absent on the day before a test or quiz, you may still be required to take it upon teacher discretion. If you are absent on the day an assignment is due, it is your responsibility to turn it in or get it checked the day you return. If homework is assigned on the day you are absent, you have one day to make it up.

***QUIZZES****:*

Quizzes will be given frequently in class, and may or may not be announced. These may come from *any* aspect of the course material: readings, lecture, homework, labs, etc.. Students who have an *unexcused* absence will not be allowed to make up the quiz, and will receive a zero. There are no retakes on quizzes.

***TESTS:***

There will be a test or project at the end of each unit. An unexcused absence on the day of a test will result in a zero on the test. Students who have been excused through the attendance office will be given ONLY ONE WEEK to make up the test or receive a zero unless arrangements are made with the teacher.

If you score less than a 70% on the test, a retake test, in a format of the teacher’s discretion, may be scheduled. You must complete the retake before the next unit test. Any passing score on a retake will be recorded in the grade book as a 70%. Please note that you may only retake ONE test per grading period.

***DAILY WORK/QUIZZES:***

25% of your grade comes from daily work and assignments, which may include classwork, homework, or quizzes. This work will be assigned via note/practice packets, textbook, and online (e-text) student resources. Daily assignments will be posted in the classroom and online and it is the student’s responsibility to be aware of the assignments. If you are absent, make sure to ask the teacher, a classmate, or see the class website to find out what assignments are due. If the assignment was made before your excused absence, it will be due upon your return. If the assignment was given during your excused absence, you have one day for each day absent to make up homework. It is YOUR JOB to make sure homework gets checked upon your return. Time may be given at the end of each class to begin working on assignments, but students should plan on an average of 2-3 hours of homework per week. It is acceptable to work with others on homework, but it is NOT acceptable to copy answers to any assignment (even if it was completed in class). If you were absent when an assignment is completed in class, either attempt it on your own or work through it with the teacher outside of class.

***LABS:***

Labs will be conducted during class. Labs will vary in length, depth, and complexity. Students will be graded on labs via participation, worksheet, quick reports, full reports, quiz, or any combination of such. Material covered in labs and lab discussions may appear on quizzes or tests. Lab work (including all of the above mentioned) may be similar, BUT NOT IDENTICAL, to those in your lab group. Identical reports will be returned ungraded and may be resubmitted for a maximum of 70% credit. Even having essentially the same report with a few words or sentences different is not acceptable. Everyone must participate in the lab and clean up the lab station when done or points will be docked from the lab report score. Lab report due dates will be posted in the classroom and on the website. Labs turned in late will be docked points at the teacher’s discretion. Late labs will not be accepted after the unit test. If you have an excused absence on the day a lab is performed, you must schedule with the teacher to make up the lab as soon as you return (lab equipment will be removed within a couple of days of lab class completion).

***GRADES****:*

Progress reports will be distributed three weeks into the grading period and again at six weeks. AHHS grading periods are nine weeks long. Citizenship grades will be determined by your conduct, attitude, and attendance as demonstrated in class. It is important to **check your grade frequently** on the district website for grades. Grades will be calculated by the following format:

9 WEEKS AVERAGE GRADE:

Daily Work and Quizzes 25%

Labs & Minor Projects: 25%

Major Grades: 50%

SEMESTER GRADE:

Average of nine weeks grades: 80%

Semester exam: 20%

***BEHAVIOR EXPECTATIONS****:*

- Phones are not allowed to be out during class unless the teacher explicitly gives permission for class use. Phones that are out will be taken up by the teacher for the remainder of the period. The second time the teacher takes up a phone from a student it will be given to the front office and returned to the student according to the school policy.

- If a student leaves the class during the period they must sign out, place their phone in the bin by the sign out sheet, and take the hall pass with them. Once the student returns the hall pass and signs back in they may take their phone out of the bin and put it away. Students will not be permitted to leave the classroom during the first and last 10 minutes of the period.

- Tardies will be counted in the system and consequences for more than 3 tardies will be enforced by the administration according to the school policy.

- The **teacher** will dismiss the class. Students who attempt to leave class before the official end of the period (as determined by the teacher’s clock) will be referred to the administration for consequences.

- Students are to be seated and prepared to begin class the minute the period officially begins, and are not allowed to line up at the door and wait for the end of the period.

**Gifted and Talented (GT)**

**Statement of Purpose**. Students who participate in services designed for gifted/talented students will

demonstrate skills in self-directed learning, thinking, research, and communication as evidenced by the

development of innovative products and performances that reflect individuality and creativity and are

advanced in relation to students of similar age, experience or environment (from the Texas State Plan

for the Education of Gifted/Talented Students).

**GT and non-GT Sections**. GT sections of PreAP/AP course are expected to be different in the way

content is covered, in the processes that are used, and in the products that are created. GT will be

taught using techniques that are considered best practices for GT students. Although the curriculum

and general grading standards will be very similar to non-GT courses, the instruction and work will be

differentiated to meet the learning needs of GT students. Different, however, should not simply mean

“more work” or “outrageously challenging,” but it refers to different types of assignments, products,

processes, pacing, etc. Non-GT sections of PreAP/AP maintain a high level of intellectual challenge

and academic rigor.

###  **Agreement of Compliance to Rules & Regulations Regarding**

**the Use of the Computers in the Physics Classroom**

The physics lab is a computer-based laboratory that includes desktop computers, “real-time” electronic data collecting probes, and computer interfacing hardware, as well as physics software programs. To ensure the continued effective and appropriate use of the equipment, all students must adhere to the following rules and regulations.

 1. Have on file with the school administration a current signed copy of the ***Student Code of Conduct and Computer Acceptable Use Policy Acknowledgment***.

 2. In addition to the rules and regulations covered by the above document, the student agrees to only use the science computer (hardware and software) for the expressed and described purposes intended by the learning situation and not alter, degrade, or disrupt any of the software programs or misuse/mishandle the laboratory equipment. This includes “intruding” into the operating system or programs for the expressed purposes of changing the existing informational structure (for example, changing the Screen Saver messages, wallpaper, or pre-set laboratory data parameters), uploading or downloading programs photos or data, or conducting activities and/or experiments not set forth in the written procedures or verbally communicated by the instructor during the conduction of a laboratory exercise.

 4. Students will not use science computers to print assignments for other classes. This classroom printer is to be used exclusively for printing graphs or physics labs.

 5. Students may be allowed to use a computer under the guidance of the instructor at times other than their normal class period if the system is not being currently used and such usage is neither disruptive nor intrusive to any on going activity in the classroom with permission from the teacher. However, the computers are to be used for school work and not for playing games or social networking.

 6. Failure to comply to the above rules and regulations, or to follow any written or verbal instructions given by the instructor may result in the loss of part or all computer use privileges in the physics lab or school. The loss of such privilege would preclude the successful completion of the laboratory portion of the course and could result in necessitating removal from the course with a withdrawal grade of “F”.

**General Safety Guidelines in the Physics Laboratory**

1. Be prepared to work when you arrive in the laboratory; be familiar with procedures before beginning the lab.
2. Perform only those activities assigned or approved by your instructor. Follow written and oral instructions.
3. Work areas should be kept clean.
4. Clothing should be appropriate for working in the lab. Long hair should be pulled back. Jewelry that presents a safety hazard should not be worn in the lab.
5. Food, beverages, candy, and chewing gum are **NEVER** permitted in the laboratory area.
6. Set up lab apparatus and use equipment as prescribed in the lab methods; don’t use makeshift arrangements. Do not modify or damage the laboratory equipment in any way unless the modification is directed by the instructor. Use equipment with care for the purpose for which it is intended.
7. Do not force any of the equipment. If an excessive amount of force is necessary then tell your instructor. There is most likely a problem with the set-up and we don’t want to make the problem worse.
8. Be aware of your surroundings, especially if there are moving parts or objects launched into the air. Warn others around you when if they appear to be in harm’s way. Do not throw objects around the room, especially at other people.
9. Be careful when working with apparatus that may be hot. It you must pick it up, use tongs, a wet paper towel, or other appropriate holder.
10. When working with electrical circuits, be sure that the current is turned off before making adjustments in the circuit elements. Ask the instructor to check all electrical circuits before you turn on the power.
11. Do not connect the terminals of a battery or power supply to each other with a wire unless instructed to. Such a wire will become dangerously hot. If you are instructed to do so, be sure to make observations and disconnect it quickly.
12. Leave your lab area cleaner than you found it and organized in the way you found it. Return all equipment, in clean and good condition, to the designated areas at the end to the lab period.
13. Know the use and location of all emergency equipment- first-aid kit, fire extinguisher, fire blanket, emergency shut-off, and emergency call button.
14. Report all accidents to the instructor immediately.