

Course Syllabus – Honors/Pre-AP Physics  
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Tuscaloosa County High School

I. Course Description

Physics is the study of matter and energy and how they are related. Emphasis is placed on mathematical solutions to scientific problems.

II. Course Objectives

Objectives include, but are not necessarily limited to, those established by the Alabama State Department of Education for Physics. The Alabama Course of Study for all Science courses can be found here: [http://alex.state.al.us/staticfiles/2015\\_AL\\_Science\\_Course\\_of\\_Study.pdf](http://alex.state.al.us/staticfiles/2015_AL_Science_Course_of_Study.pdf)

III. Materials and Text

Textbook: *Physics: Principles and Problems*, 2013 McGraw-Hill (ISBN: 978-0-07-659252-4)  
Composition book with graph paper  
Three ring binder  
Loose-leaf paper (college-ruled preferred)  
#2 Pencils (required for scantron-based tests)  
Pens (black ink is preferred, water-resistant is ideal)  
Scientific Calculator

IV. Attendance and Makeup Work

All Tuscaloosa County Board of Education policies will be followed. If a student is absent, and the absence is excused, it is the STUDENT'S responsibility to arrange for make-up work, and the arrangements must be made within two days of return from the absence. The time allowed to actually submit the make-up work will be at the discretion of the instructor, but will generally be the same as the number of days missed.

V. Late Assignments

All assignments must be turned in on time. All students are given ample time to complete assignments, most often including time during class in addition to the time expected of the student while at home. Therefore, late assignments will generally not be accepted; however, due to unexpected circumstances, this is at the discretion of the instructor.

VI. Evaluation of Student Performance

Grades on homework, classwork, laboratory activities, journals, notebooks, tests, labs, and all other assignments will be based upon participation, effort, accuracy, or some combination of one or more of these. Each student will receive at least one grade per week, including a comprehensive exam at the end of each grading period, as well as a comprehensive exam at the end of the course. Each student's grade at the end of a grading period will be determined on the basis of total points earned versus total points possible. Each student is expected to keep up with his/her own scores.

All notes, assignments, and any other materials distributed by the teacher or related to this class should be retained in your notebook. The actual organization and layout of your notebook will be discussed separately.

The "starter" assignments given each day will also be part of your final average.

## VII. Student Expectations

Students will be held to high standards of both academic achievement and behavior in this class. Among other things, students are expected to:

- A. arrive to class on time (before the tardy bell rings) and begin working on the “starter” assignment
- B. have all required materials (including, but not limited to, textbook, notebook, paper, and writing utensils)
- C. review classwork each night and complete any work that was not finished during class
- D. show respect for and a positive attitude about and toward the class, the teacher, and other students
- E. comply with school rules and policies and directives from the teacher(s), the school, and the Tuscaloosa County Board of Education. This includes all items mentioned on the “Classroom Information and Procedures” handout that you receive from me.

## VIII. Conference Information and Parental Involvement

Every student will receive a computer-generated progress report at least once during each nine weeks in addition to the report card issued at the end of the grading period. Any parent who has questions, needs further information, or would like to schedule a conference may contact me at the school.

Telephone: (205) 342-2670  
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## Course Outline

The following is a tentative schedule; the time line is flexible and subject to change.

### 1<sup>st</sup> Semester:

*Overview; Measurement, Conversions, Problem Solving*  
*One Dimensional Motion*  
*Two Dimensional Motion / Vectors*  
*Forces ; Newton's Laws of Motion*  
*Work and Energy*  
*Momentum and Collisions*  
*Circular Motion and Gravitation*

### 2<sup>nd</sup> Semester:

*Heat, Entropy, and Thermodynamics*  
*Vibration and Waves, Sound, Light*  
*Reflection, Refraction, Interference, Diffraction of Waves*  
*Electricity and Magnetism*