

PHYSICS COURSE SYLLABUS

Thomas County Central High School

Mission Statement: Thomas County Central High School is committed to all students graduating as productive citizens in a global society.

Teacher: Ryan Strickland	Website: tinyurl.com/coachstrick
Room Number: D-9	Email: Coach Strickland – rstrickland@tcjackets.net
School Year: 2015-2016	Phone: 229.225.5050
Textbook: <i>Physics, Holt</i> (replacement cost \$53.04). A classroom set is used. Students can check out a textbook upon request. <i>E=mc²: A Biography of the world's most famous equation</i> (replacement cost - \$13.65)	Tutoring: Available in mornings before school and after school. Please schedule a tutoring time at least one school day before desired time.

Course Description: Physics is an advanced level science class that satisfies the high school graduation requirement of a physical science class. Students should have successfully completed or currently enrolled in Accelerated Math III. The physics curriculum includes interactions of matter and energy, velocity, accelerations, force, energy, momentum and charge. Students will be challenged to apply their knowledge of the laws of physics to solve physics related critical thinking problems. Students will complete a long term science project that will count as multiple test and projects grades for each nine week grading period. Students are also required to read an outside novel as part of the Common Core Reading standards for science.

Standards Based Instruction: This course will include information in compliance with the Georgia Performance Standards (GPS)/ Common Core Georgia Performance Standards. For complete coverage of this course's standards please see www.georgiastandards.org/

SP1. Students will analyze the relationships between force, mass, gravity, and the motion of objects.
 SP2. Students will evaluate the significance of energy in understanding the structure of matter and the universe.
 SP3. Students will evaluate the forms and transformations of energy.
 SP4. Students will analyze the properties and applications of waves.
 SP5. Students will evaluate relationships between electrical and magnetic forces.
 SP6. The student will describe the corrections to Newtonian physics given by quantum mechanics and relativity when matter is very small, moving fast compared to the speed of light, or very large.

Materials: The following materials will be used in this class on a daily basis. Most of these supplies can be used in other classes as well. They do not need to be used for this class only!

- Spiral notebook: 9x11 or larger ***YOU MUST GET THIS SIZE*** or your pages won't fit!!!!
 - 150-200 sheet count or two books with 100 sheets each
 - College Rule
 - 3-hole punch
 - This will be for this class only!!
- Colored pencils (we will use color a lot in this class) – erasable is the best – NO MARKERS, they bleed through. *There is a class set available.*
- Something to write with: Pencil, Blue or Black ink pen – nothing that will bleed through pages.
- Highlighters (3 different colors of your choice – used daily!). *There is a class set available.*
- 3-4 Glue Sticks (we will be gluing assignments into your notebook). *There is a class set available.*

Reading in the Content Area:

As part of our content standards, all students will be required to read content related material to enhance the curriculum. Reading requirements include current science article and *The Physics of Superheroes* by James Kakalios. This will be assigned during the 3rd nine weeks grading period. An outside project and reading assignment will be required.

Course Outline: Assignments will be checked weekly and entered into the grade book on Notebook Check/Test Date.

1st Nine Weeks Unit 1 – Measurement Unit 2 – Vectors Unit 3 – Velocity and Acceleration	3rd Nine Weeks Unit 7 – Static Electricity Unit 8 – Electric Circuits Unit 9 - Magnets
2nd Nine Weeks Unit 4 – Newton's Laws and Projectile Motion Unit 5 – Forces Unit 6 – Momentum and Energy	4th Nine Weeks Unit 10 - Waves Unit 11 – Sound Unit 12 – Light and EM Spectrum Unit 13 – Optics (time permitting) Unit 14 - Nuclear

Course Grading Percentages:

Test.....	40%
Labs.....	25%
Daily Work	15%
Benchmark.....	20%

**The average derived from these percentages in the teacher's grade book will be used to determine the student's final grade at the end of the year. All students will be required to participate in a science fair project or an Exploravision project. This major project will count for multiple grades throughout the year. All students will also have an outside reading selection for physics to cover the Common Core Literacy standards in science. Any major outside project or assignment that is turned in late will have a reduction in the final grade by ten points each day the assignment is late. Failure to turn in a major project could result in a failing grade for the nine weeks and possibly the year.*

Project Information

All work must have prior approval. Work will not be graded for projects that have not been approved.

Exploravision Group of 2-4 www.exploravision.org	Science or Engineering Project Individual or team of 2 http://www.societyforscience.org/isef/	Due date & assignment
Create and explore a vision of future technology by combining imagination with the tools of science. See above website for more information.	Design and conduct an experiment to answer a question or solve a problem. Engineering projects set a goal and build a prototype. See above website for more information.	
TOPIC Select group and identify topic. Write a paragraph explaining your topic (the technology, the problem it could solve and a short explanation).	TOPIC Work individually or with a partner. Describe topic and a rough research plan. (Describe in general terms what you will do.)	Friday, August 14 Daily grade (no other work will be accepted until the topic has been approved)
HISTORY, PRESENT, DESIGN PROCESS, & BIBLIOGRAPHY. Follow formatting guidelines given to you. You will resubmit these sections, be sure to save your work electronically. SUBMITTED through TURNITIN	PROJECT INTRODUCTION Write a summary of background research relating to your topic and design your experiment. This should be written in proper MLA or APA format and include a bibliography. SUBMITTED through TURNITIN	Friday, August 28 Test Grade
FUTURE This is the most important part of the Exploravision paper. Describe your vision for your project. Use original drawings whenever possible.	RESEARCH PLAN & FORMS Complete official forms including the research plan. Be sure to include proper signatures and correct dates.	Friday, September 11 Lab Grade
Revised FUTURE, BREAKTHROUGHS, & CONSEQUENCES Follow guidelines. SUBMITTED through TURNITIN	RESULTS Display data in appropriate tables AND graphs.	Friday, October 16 Lab Grade
COMPLETE PROJECT DESCRIPTION All written parts in proper format. SUBMITTED through TURNITIN	RESEARCH REPORT Follow guidelines.	Friday, October 30 Test Grade
ABSTRACT Describe your project in 150 words or less. SUBMITTED through TURNITIN	ABSTRACT Complete all aspects of the abstract in 250 words or less.	Friday, November 13 Daily Grade
WEB PAGE GRAPHICS (5) Follow directions provided.	DISPLAY Turn in an attractive and well organized backboard describing your work.	Friday, November 20 Lab Grade
TCCHS Science Fair, Friday, December 4		

Parts of these projects will be turned in multiple times. Make sure all work is saved more than one place and that all group members have access to the electronic version. Exploravision projects and science fair projects will be submitted electronically. All parts of the project must be turned in on time or result in ten points taken off for each day that it is late. If the student chooses to participate in a group project, all students in the group will receive the same grade. Checklists will be provided for every assignment and due dates will be posted on the checklists.

MY EXPECTATIONS:

I have high expectations for this class! I am willing to help and work with you in anyway, however slacking off will not be tolerated. It is very easy to pass my class—here's how you do it:

- Come to class on time and be ready to work when the bell rings! I start on time!!!
- Do your best work (homework/class-work, studying, labs, group and individual participation)
- Pay attention in class! Ask questions when you don't understand.
- Take good notes
- Complete your projects/assignments on time and to the best of your ability.
- Work cooperatively with your peers, no matter who they are!
- Most important—keep up!!! Homework will be assigned and is crucial to your success.
- Don't get behind...it's a lot harder to catch up than to stay on task!
- Follow all lab safety guidelines – You will lose lab privileges upon violation of these!!
- Follow all policies in student handbook (Tardies, absences, cheating, course repair, academic indifference)

If students do not meet the teacher expectations, the teacher will follow the course of action below:

1st Offense – Teacher/Student Conference

2nd Offense – Parent Contact/Teacher Detention

3rd Offense – Referral to Administration

Teacher: I will be fair and consistent in administering the discipline plan and grades for my students.

Signature: _____ **Date:** _____

Student : I have read the classroom discipline plan and syllabus, and I understand it fully. I will honor it and will support it while in the classroom.

Signature: _____ **Date:** _____

Parent/Guardian: My child has discussed the classroom discipline plan and syllabus with me. I understand and support it.

Signature: _____ **Date:** _____

Best Means of Contact: _____