

**Conceptual Physics Course Syllabus**

Contact: earlchen@ccs-rams.org

Website: <http://sites.google.com/a/ccs-rams.org/echen/home>Required Textbooks:1) **Conceptual Physics** *by Paul G. Hewitt* **ISBN: 0-13-054254-7**Recommended Books (not required):1) **The Cartoon Guide to Physics** *by Larry Gonick* **ISBN: 0062731009**

Course Description: The main reason to study physics is to enhance the way you see the physical universe. The concepts of matter, energy, waves (sound and light), and other characteristics of nature will be introduced, explored and discussed.

Course outline: This course will cover the following topics (may not be in this order)

Mechanics - motion and moving objects, forces, gravity, conservation of momentum and energy

Matter - atoms, phases of matter (solid, liquid, gas)

Heat - temperature, heat transfer, thermodynamics

Sound and Light – waves, sound, light, color, reflection, lenses, diffraction, interference

Electricity and Magnetism - moving electrons and magnetic poles

Atomic and Nuclear Physics - atoms, quantum physics, radioactivity, nuclear fission and fusion

Supplies: You will be required to bring the following learning materials and equipment to class

*For note-taking, data-collecting, and other written work:*

Spiral Notebook (8.5x11)      pen      pencil and eraser

*For homework, schoolwork, and exams:*

Scientific calculator (TI-30X II or equivalent)      binder paper (8.5x11)

*For labs:*

Lab coat      Protective Eyewear

Group Labs and Projects:

Labs are meant to allow students to observe physics concepts firsthand.

Projects done by students are to explore ideas and the history of physics in depth and will be presented.

Grading scale: The CCS standard grading scale is below

97-100	A+	67-69	D+
93-96	A	63-66	D
90-92	A-	60-62	D-
87-89	B+	50-59	F
83-86	B		
80-82	B-		
77-79	C+		
73-76	C		
70-72	C-		

Classroom expectations:

Students must follow instructions at all times to maintain a safe learning environment. Students must understand Stop-Freeze-Go, Lab Safety, and paperwork submission procedures. In general, don't do anything that prevents other students from learning.

Late work: Paperwork submitted after due date without sufficient excuse.

There are two types of late work – soon after and long after. Soon after late work is turned in days after it is due (your score -10% for every day late). Long after late work is turned in more than a week after it is due (50% of your score). The minimum score for any paperwork (late or on time) is 25%.

Exam Policy:

Exams will be given upon completion of certain chapters. Missing assignments will be posted on PowerSchool. Students absent on an exam day will receive an automatic 25% until they arrange with the teacher when they will take the test.

Extra Credit:

There will be extra credit opportunities throughout the course that will allow you to boost certain assignment grades or even replace low grade assignments.

Student Responsibilities:

All students will be held accountable for the information on this syllabus, in the student handbook, and PowerSchool. Policies may be added and/or changed throughout the year to better fit the class. Any disregard or violation of policy and procedure may result in academic harm due to various reasons and/or physical harm due to safety hazards. In general:

- keep yourself and fellow students safe
- value your grade and other students' grades
- do your work completely and on time

Quarter Grade Weighting:

Group Project and Presentation	10%
Paperwork (homework, schoolwork, quiz)	20%
Labs (lab report, conduct, safety)	35%
Exams (Chapter Test, Unit Test)	35%

Semester Grade Weighting:

Quarter 1	45%
Quarter 2	45%
Final Exam	10%