**Career Tech. Science 2012-2013 MR. GROFF**

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**INTRODUCTION**

Welcome to CT Science. I am pleased that you have selected to take this class for the upcoming school year. This class covers many different topics as they are related to the fields of chemistry and general physics. This class will help you to focus your problem solving skills and help you understand the world around you.

This course is designed to cover many different topics without going into very much depth on each. I want this class to be as hands on as possible as we learn the material. I will do my best to make sure this happens but we also are here to learn content, so some days will not be as exciting as others.

**TEXT:** We will use more than one textbook in this course, with the most text book use being in the second half of the year during the physics section.

**GRADING AND POLICIES**

**Homework**

This is a broad category as homework can come in many shapes and forms, from practice problems, reading assignments, lab write-up’s etc. My homework will be a critical part of your understanding of the class. If you keep up with your homework then you keep up with that class, I believe this very much.

**Class Participation**

I am big on work ethic. When you come to my class I expect you to come in with the attitude “lets get things accomplished!”. We only have 46 min!, so making sure we get down to business is important. You can do this by always being prepared with necessary daily class materials, and by having a positive attitude and an interest in what we are learning. You were not forced into this class; you wanted to take it, so enjoy yourselves!

**Tests**

This is the largest single chunk of your grade so they are very important. Each unit will be followed by a formal test. Normally multiple choice, short answer and extended response questions on each.

**Projects**

Projects are always going to be graded based on a rubric of my choosing. This will be outlined on the date you receive the project.

**Flexibility**

I know that you students have very busy lives, with extracurricular activities, school clubs and just general family things. I am flexible with certain assignments but please do not make this a habit. If it is an emergency I will allow extra time but do not mistake this for a get out of jail free card.

**Classroom Expectations/Activities**

I will do my best not to lecture too much. I want this instead to be student centered class will a lot of discussions, group work and collaboration as a group in order to solve and understand the concepts discussed in class.

I expect you to:

* + Be prepared and on time
  + Use class time wisely
  + Always be respectful of each other as if they were a professional colleague of yours.
  + Be responsible for your own learning
  + Always come in to class with a positive outlook, ready to learn.

**REQUIRED MATERIALS- Daily**

* Pencil-I hate pens when doing physics science work, you will have to erase!
* Notebook for class notes and homework.
* Text Book

**Course Outline**

**Unit 1**

Science Skills: The Big Ideas, Sci. Method, Lab Safety, Measurement: Notations, SI units/prefixes, Precision vs. Accuracy, Graphing

**Unit 2**

Properties of matter: Classifying, physical, chemical properties.

States of matter: SLG, Gas Laws, Phase Changes

**Unit 3**

Atomic Structure

The periodic table: Organization, the modern table hints, representative groups

Bohr/Lewis

**Unit 4**

Chemical bonds: Ionic and Covalent

Naming Compounds

Metals

**Unit 5**

Chemical Reactions: Types, describing, energy change

Solutions: Acids/Bases: properties/strengths

**BEGIN PHYSICS**

**Unit 6**

Force, Tension, Vectors

Motion: Velocity, acceleration and free-fall

**Unit 7**

Projectile Motion: components of vectors, projectile motion,

**Unit 8**

Newton’s 2nd Law: Friction/Air resist

Newton’s 3rd: forces and Interactions

**Unit 9**

Momentum: Conservation

Energy: work, power, mech. energy, potential, kinetic, efficiency, machines

**Unit 10**

Circular motion: Centip. force, centrifugal force, rotational eq, torque, COG

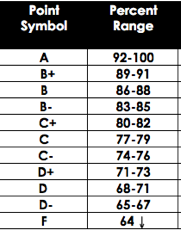
**Unit 11**

Rotational Motion: Rot. Inertia, Ang. Momentum, Sim. gravity.

**Unit 12**

Electrical Energy and Circuits.

**GRADING BREAKDOWN**



**Student Information Sheet**

**NAME:**

What skills do you feel are your strongest in relation to this class?

What are you planning on doing in 5-10 years?

Anything else I should know about you?

**SIGN OFF**

I have read and understand the above syllabus and will do my best to meet all expectations. I will always strive to work hard and have a positive attitude while in class. I realize that success in this class is up to me first and foremost.

**Student Signature: Date:**

**Student e-mail: Parent Phone:**

**Parent Signature**

**Parent e-mail:**