AP CHEMISTRY:

The three main goals of AP Chemistry are (1) to truly challenge every student, (2) to teach every student the equivalent of two semesters of college chemistry, and (3) to prepare every student for the AP Exam. The class goes deeper into topics learned in Chemistry, and then moves on to new topics such as thermodynamics, equilibrium, acid-base chemistry, kinetics, and electrochemistry. This course will include a variety of detailed laboratory experiences, some of which are from college lab manuals.

The course will develop the student's ability to incorporate mathematical skills in the solution of chemistry problems, both through the use of textbook problems and laboratory activities. Since the AP exam no longer allows the use of calculators, significant emphasis will be placed on developing the student's ability to solve problems through dimensional analysis and estimation. Students will be required to do extensive writing, and to keep a thorough and accurate ongoing laboratory notebook.

Through the course of the year we will be working on 7 curricular requirements. You will see each weeks activities keyed to these requirements:

Curricular Requirement	Description
C1	Structure of matter (Atomic theory and atomic structure, Chemical bonding
C2	States of matter (Gases, Liquids and solids, Solutions)
C3	Laboratory (Physical manipulations; Processes and Procedures; observations and data manipulation; communication, group collaboration, and the laboratory report)
C4	Descriptive chemistry (Relationships on the periodic table)
C5	Reactions (Reaction types, stoichiometry, Equilibrium, Kinetics, Thermodynamics)
C6	Emphasis on chemical calculations and the mathematical manipulation of principles
C7	Laboratory component comparable to college-level chemistry.

MATERIALS NEEDED:

1. *Textbook* ~ Just bring it, you know why.

2. *Lab Book & Safety Glasses* ~ There will be extensive lab work throughout the course and these activities must be in the lab book if they are to be graded. The lab book and safety glasses are included in the course fee.

3. *Calculator* ~ Most students will find a graphing calculator very useful in AP Chemistry.

4. *Notebook* ~ To be successful in an AP program, organization is critical. Keep a notebook(s) for studying/organization.

CLASSROOM MANAGEMENT:

While in class you should have respect for yourself, the other students, classroom materials/equipment, and myself.

Detentions: In-school or after-school detentions are not assigned for inappropriate behavior. For each classroom infraction (especially violations of the safety contract) *up to* 10 points will be deducted from your grade. Other suitable punishments or removal from class may be assigned. Repeat problems will result in a parent-teacher conference.

Homework: According to the College Board, "Students in an AP Chemistry course should spend at least five hours a week in individual study outside the classroom." Our textbook (Zumdahl) is very common for AP and college chemistry courses because it is so good. You will be expected to read material from the book to prepare for class and do homework problems from the book to reinforce concepts. The Internet can also provide resources valuable for this course.

As with Chemistry, homework in AP Chemistry is meant to be a tool for the students, not for the teacher. In this case homework will be graded much more so on correctness than it was in Chemistry. In addition, the problems will be significantly more difficult and some students, having made it through Chemistry without much effort on homework, get caught by surprise when they didn't put much effort into homework and then do poorly on tests.

If you are absent you are still responsible for the assignment. In AP I expect absent students to contact myself or other students prior to the start of the next class to ensure that they do not fall behind. Absences such as field trips, dentist appointments, ISR, OSS, etc., where the student is aware that they will miss class ahead of time, must see me for details prior to the event. Failure to do so will result in an automatic zero for the assignment. Unexcused absences from class will automatically result in a deduction from the nine-weeks grade.

LABORATORY:

The AP Exam will ask one free response question specifically about a lab, and other free response and multiple choice questions will contain information that you will learn in lab. The differences between college chemistry and the usual secondary school chemistry course are especially evident in the laboratory work.

Lab not only reinforces what you learn, but it is a way of *actually understanding concepts*. At least one period per week will be spent in lab. It is recommended that 30% of your grade be based from laboratory work.

Labs are designed with *safety* in mind, but students will be working with hazardous materials and expensive equipment. I expect that all safety precautions be followed at all times. **Incorrect lab procedures, unsafe behavior, or disruption of others in the lab is completely unacceptable and may result in removal from the lab and a reduction in grade.** As second-year chemistry students you are expected to be even more safe and appropriate in lab than before. Everyone needs to be confident of everyone else's competency to maintain a safe environment.

1. Labs are worth up to **20 points** (5 points for an advance study assignment & 15 points for the write-up). Labs handed in late will have 5 points deducted for each day late.

2. Labs should be presented in the following form:

   A. ***LABORATORY TITLE***

   B. ***INTRODUCTION:*** This is where the purpose of the lab is explained; what do you intend to accomplish when the lab is completed. Your introduction should also include any background information that is necessary to formulate a hypothesis statement regarding the exercise.

   C. ***MATERIALS:*** This is equipment used in the experiment.

   D. ***DATA:*** Any information collected in a laboratory exercise is to be presented in an **organized** chart or table that is constructed using a *straightedge*.

   E. ***ANALYSIS:*** Here data is analyzed in the form of **questions**, **graphs,** or **calculations**. Tables and charts are to always have the following: *Title, and an appropriate axis including proper scale & labels*. **Graphs should be a minimum of a third of a page in size.**

   F. ***CONCLUSION:*** This is the most important part of the lab. **Summarize** all of the major points that you have learned or particular skills you were able to enhance. Also feel free to tell me if you liked the lab or if you think there might be a better way of doing it.

3. If you are absent during a lab or know that you will be absent, you may still be required to write it up. Whenever you have missed a lab or know that you will miss a lab, always see me for details. Failure to do so will result in an automatic zero for the assignment or lab exercise.

GRADING POLICY:

Grades are assigned based on the following grading scale:

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