ADVANCED PLACEMENT CHEMISTRY
2011-2012 SCHOOL YEAR
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The Advanced Placement Chemistry program at duPont Manual High School is designed to fulfill the requirements for a first year college chemistry course. The defined curriculum is developed to insure that students have covered adequately the required material for the national AP Chemistry Examination in May 2012. The material is comprehensive in nature and leaves no time for delay.

The course is envisioned as a Chemistry II course and presupposes fundamental knowledge from Chemistry I. While there is some overlap and review of Chemistry I material, the desire is to spend most of the class time on new topics or familiar topics in an expanded form.

Time spent on the basics of chemistry (the language of chemistry if you will) is kept to a minimum. It is assumed that the student is familiar and proficient in basic areas and requires only a brief reinforcement in order to reach the level of expertise needed for AP Chemistry. Therefore, students entering the 2011-2012 class are expected to be proficient in the following areas:

1. **Scientific Measurement**: Units, significant figures, dimensional analysis (factor label method), temperature scales, etc.
2. **Classification of Matter:** elements, compounds, mixtures (homogeneous and heterogeneous), physical and chemical properties.
3. **Basic Atomic Structure:** subatomic particles (charge, mass, location), early atomic theory (pre-quantum mechanics models).
4. **Periodic Table Basics:** metals, non-metals, and groupings and patterns within the table.
5. **Naming of Compounds:** determining chemical formulas from chemical names and chemical names from formulas. **Note:** Students are required to know **by memory** the charges of the most common cations and anions formed by elements, including polyatomic ions. See accompanying sheets. **There will be a TEST the third class period of the semester that covers all nomenclature.**
6. **Mole Concept:** determination of atomic mass, molar mass, mole relationships and conversions, percent composition of compounds.
7. **Stoichiometry:** balancing equations, calculation of amount of reactant or product, limiting reagent, percent yield.

A very short amount of time will be spent in the review of the above topics. Tests and quizzes will commence at on the third class period of the semester and continue frequently to assure mastery of these topics. After that time, it is assumed all students

know and understand these topics for the remainder of the year. These topics are the language of chemistry and must be mastered at an early date in order to progress to more involved topics.

Summer review of these topics is recommended. Suggestions include borrowing a Chemistry I book or an AP Chemistry book and reviewing the appropriate chapters or getting an AP Chemistry Review book (There are several at bookstores. I recommend Prentice Hall.) that covers these topics. For those taking AP Chemistry as a first year chemistry course, a systematic study schedule throughout the summer is the best means of covering the material in question.

NOTE: MST students in 9th – 11th grade taking AP Chemistry who are not taking any other MST science class that requires a science fair research project MUST be enrolled in Independent Research concurrently for the entire year in order to fulfill your science fair research requirement for the MST program. THERE ARE NO EXCEPTIONS TO THIS REQUIREMENT.

I look forward to seeing all of you in the fall. I hope you have a productive summer and return to Manual with a desire and commitment to succeed in our class.

TEST/QUIZ SCHEDULE:

Third class meeting:	Naming chemical compounds and chemical formulas
Fourth class meeting	Scientific measurement

After these two tests/quizzes, atomic structure, mole concept and stoichiometry will be covered in rapid succession in class with quizzes and tests accompanying each topic.