Advanced Placement Chemistry Syllabus 2013-2014

Rocklin High School
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Course Prerequisites

1. Grade of B or better in General Chemistry , or teacher consent
2. Grade of B or better in Algebra II

Course Description

Advanced Placement Chemistry is an intensive and accelerated class intended to be equivalent to a freshman level college chemistry class. The purpose of this class is to explore the fundamentals of chemistry by focusing on chemical calculations and laboratory experimentation. All students enrolled in the course will take the AP exam, administered by the College Board, on Monday May 05, 2014.

Grading Policy

All assignments in this course will be graded on a basis of points. Assignments will include lab write-ups, tests, quizzes, projects, and exams. The following grading scale will be used to determine all letter grades:

A	90-100%
B	80-89%
C	70-79%
NC	69% or lower

The following percentages represent the areas of the class that will be emphasized. Final grades will be weighted according to the following scale:

30%	Homework, Class Work, Lab Work
70%	Tests and Quizzes

Students will have the opportunity to check their grades online. It is the student's responsibility to ensure that all grades are properly recorded.

Office Hours

AP Chemistry is a rigorous and challenging course. It is the student's responsibility to seek help outside of class if needed. Tutoring is upon request.

Required Materials

1. Barron's AP Chemistry Review Book, 5th or 6th Edition (Primary Resource)
2. Zumdahl Chemistry book (Secondary Resource)
3. 3-ring binder in which to keep class notes, assignments and tests
4. Scientific calculator
5. Spiral Notebook

Drop Policy

In order to drop AP Chemistry, it must be done within the first 3 weeks of school. If you do not drop by this date, you will be required to remain in AP Chemistry until the end of the first semester. If you earn a NC for the first semester, you will automatically be dropped from the class second semester.

Testing

The College Board charges $89.00 for each AP exam (amount is set by the College Board and is subject to change). Checks must be made payable to Rocklin High School and turned in to the Storm Cellar no later than **FEBRUARY 1st**. Students can set up a payment plan with Ms. Miller prior to the February 1st deadline. The College Board provides a fee reduction plan for students that qualify. Students may visit the Counseling Center for additional information.

Topic Information

Since the course is tested by College Board, the exhaustive explanation can be found at the College Board website: www.collegeboard.org. Perform a search for "AP Chemistry Course and Exam Description".

This year, we are going to treat AP Chemistry as a '2nd year' chemistry course, so we will move quickly over topics that were already covered in General Chemistry.

Changes

The 2013-2014 year is now AP Chemistry's turn for a course revision. The revisions are designed to have a balance between breadth and depth of knowledge. In addition, there are now 117 Learning Objectives that 'detail' out what students must know, or be able to do. Each exam question is tied directly to one or more Learning Objectives (L.O.'s).

As such, this year we will try something new and implement Essential Skills. These Essential Skills will be the Learning Objectives. Since this is the first year, and there are so many Learning Objectives, this policy will be implemented with a great deal of flexibility. Every one of the unit test questions will be tied to an L.O. So passing the test with a 70% means that students are 70% proficient on the Learning Objectives, and therefore Essential Skills. Essential Skills will be introduced at the beginning of each unit.

Six Big Ideas

The revisions to the AP Chemistry course have resulted in the differentiation of six Big Ideas, and they are called as such. The Big Ideas are divided into Enduring Understandings and Essential Knowledge, and then are split up even further into the Learning Objectives. Additionally, there are Science Practices which are designed to encourage the building of more skills in the classroom. The following are the 6 Big Ideas:

- Big Idea 1: The chemical elements are fundamental building materials of matter, and all matter can be understood in terms of arrangements of atoms. These atoms retain their identity in chemical reactions.
- Big Idea 2: Chemical and physical properties of materials can be explained by the structure and the arrangement of atoms, ions, or molecules and the forces between them.
- Big Idea 3: Changes in matter involve the rearrangement and/or reorganization of atoms and/or the transfer of electrons.
- Big Idea 4: Rates of chemical reactions are determined by details of the molecular collisions.
- Big Idea 5: The laws of thermodynamics describe the essential role of energy and explain and predict the direction of changes in matter.
- Big Idea 6: Any bond or intermolecular attraction that can be formed can be broken. These two processes are in a dynamic competition, sensitive to initial conditions and external perturbations.