

Advanced Placement Chemistry

Course Information

Instructor: Mr. Olin Bausback
Year: Terms 3 & 4; 2008-2009
3 Texts: Chemistry, Steven Zumdahl, 2007, 7th Edition
Complete Solutions Guide, Hummel & Zumdahl
Princeton Review "Cracking the AP Chemistry Exam" 2009

Prerequisite: "A" average in Honors Chemistry or instructor approval

CLASS FORMAT

Advance Placement Chemistry is designed to provide the student with the equivalent of a first year college level chemistry course. The class has been designed with three major goals in mind:

1. To improve and build upon the analytical skills acquired in honors chemistry through a variety of problem-solving experiences.
2. To give solid preparation for the Advanced Placement Exam through frequent exposure to similar testing conditions, including three full-length AP Chemistry exams.
3. To build a greater understanding of the concepts chemistry through labs and activities.

Topics Covered in AP Chemistry: The class is designed to include those topics emphasized on the AP Chemistry Exam. The Zumdahl text generally follows these topics and is used in many high school AP Chemistry courses. See the attached list for which topics will be covered during which weeks.

Labs: Laboratory work and activities will serve to strengthen concepts presented in the text and in lecture. Each week one or two block periods (1.5 to 3 hours) will be devoted to labwork (see schedule posted below). Students will complete lab reports for each lab and keep these in their AP Chemistry Lab Portfolios. Write up guidelines will be posted on the website or handed out in class. Safety is a primary concern during labs and activities. Students should always listen for safety tips presented before each lab and use common sense.

Presentations: Material will be presented regularly on topics in the text as well as related topics. Students are required to print out the notes from Mr. Bausback's website and keep them well organized in a three ring binder notebook. Students will fill in problems and other parts of the notes as they are presented in class. It is the student's responsibility to obtain notes from classmates when absent.

Homework: Homework, which includes traditional problem solving as well as lab write-ups, is extremely important. The frequent application of principles in novel ways gives the kind of depth of understanding and eventual ease that you will value when the AP Exam comes along. The students will be given the complete solutions manual, but this is only to be used after the student has tried the problems and wants to verify the answers or techniques. There is little point in copying the problems from the solutions manual in order to get HW credit. The assignments are listed on a handout for the entire course and are also posted on the class website.

Tests: Exams will be given frequently and will often be in AP format. The student will have the opportunity to complete three full-length AP Style Chemistry exams before the actual exam in May.

Grading: A student earns his/her grade through the points accumulated over the term. The easiest place to get a quick update on a student's grade in the course is on the class website. The points are totaled and weighted as follows. The class will vote on which option they prefer.

| | Term 3 Option 1 | Option 2 | Term 4 Option 1 | Option 2 |
|-------------------------|------------------------|-----------------|------------------------|-----------------|
| Labs | 20% of grade | 20% | 10% of grade | 10% |
| Tests/Quizzes | 45% of grade | 35% | 35% of grade | 25% |
| Morning Tutoring | | 10% | | 10% |
| Homework | 10% of grade | 10% | 5% of grade | 5% |
| Final Exam | 25% of grade | 25% | 25% of grade | 25% |
| Class Project | | | 25% of grade | 25% |

Extra Help: Due to the progressive and accelerated nature of the course, it is critical that the student master topics as they are discussed and not wait until the night before a test. I am usually available before school (7:30 am) in room F-6. Appointments are helpful, but not required. I also encourage students to form study groups. Many excellent tutors can be found on the class website.

Absence: Due to the advanced nature of this course, regular attendance is of critical importance. All assignments are due on time, so if a student is absent, s/he should send the assignment to school with another student. Late assignments will only receive half credit and are only accepted 5 school days after the due date. Makeup tests & labs will be scheduled before school in room F6.

The Web Site: My class web site has copies of many of the handouts and is loaded with useful chemistry links and material. You can also find an up-to-date breakdown of the student's grade anytime. Students without computers at home are welcome to use the ones in my classroom before or after school and the ones in the library.

<http://members.cox.net/chemistry>

HOW TO CONTACT MR. BAUSBACK

The best way to contact me is through email.

Best Email Address to reach me: smhs.chemistry@gmail.com

My telephone number at SMHS is 967-4581 Ext: 361

I do not check my voicemail regularly, but I do check email daily. If you leave a voice mail and do not hear back, please email me instead, as I did not receive the message. I do not check either after 2:00pm and do not receive messages on weekends.

Schedule and Topics Covered

| Week | Chapter(s), Topics |
|------|--|
| 1 | <p style="text-align: center;">1, 2, 3: (Pgs. 1- 93) Review: Dimensional Analysis, Units, Atoms, History of the Atom, Nomenclature, the Mole</p> <p style="text-align: center;">Labs: Determining the formulas of Hydrated Crystals; Copper into Gold</p> |
| 2 | <p style="text-align: center;">3, 4: Percent Composition, Empirical Formulas, Limiting Reactant & Theoretical Yield, Reaction Patterns and Solubility Rules</p> <p style="text-align: center;">Lab: Limiting Reactant and Theoretical Yield of a Chemical Reaction</p> |
| 3 | <p style="text-align: center;">5: Gases and Solids 18: Groups 1,2,13,14</p> <p style="text-align: center;">Lab: Experimental Molar Mass of Magnesium through Reaction with HCl</p> |
| 4 | <p style="text-align: center;">6 & 16 Thermochemistry</p> <p style="text-align: center;">Lab: Determining the Molar Heat of Combustion of Hydrocarbons</p> |
| 5 | <p style="text-align: center;">7: Atomic Structure 19, 20: Groups 3-12, 15-18</p> <p style="text-align: center;">Lab: Separation of a mixture and Purification of the Components</p> |
| 6 | <p style="text-align: center;">8, 9 Lewis Structures, Intermolecular Forces, Molecular Geometry</p> <p style="text-align: center;">Lab: Determining Molecular Structure and Geometry</p> |
| 7 | <p style="text-align: center;">10, 11: Liquids & Solutions, Colligative Properties, Descriptive Chemistry</p> <p style="text-align: center;">Lab: Using Colligative Properties to Determine Molar Mass Experimentally</p> |
| 8 | <p style="text-align: center;">12, 22: Reaction Kinetics, organic chemistry</p> <p style="text-align: center;">Lab: Determining Experimental Reaction Rate; Thiosulfate reacts with Hydronium Ions.</p> |
| 9 | <p style="text-align: center;">Final Exam Term 3 Ch. 23 Organic Chemistry</p> |
| 10 | <p style="text-align: center;">13, 21: Equilibrium, Nuclear Chemistry Begin 14,15: Acids & Bases</p> <p style="text-align: center;">Labs: Equilibrium and Acetic Acid; Observing Le Chatelier's Principle.</p> |
| 11 | <p style="text-align: center;">14, 15 Acids, Bases, Buffers</p> <p style="text-align: center;">Lab: Determining Molarity of Unknowns Through Titration</p> |
| 12 | <p style="text-align: center;">17 Electrochemistry</p> <p style="text-align: center;">Lab: Determining the K_a's of Phosphoric Acid</p> |
| 13 | <p style="text-align: center;">Review and Final Exam Term 4</p> |
| 14 | <p style="text-align: center;">College Board's AP Chemistry Exam</p> |