



COURSE TEXTBOOK: Brown, LeMay, Bursten, Murphy, & Woodward. 2012. *Chemistry: The Central Science* AP Edition, 14TH edition

COURSE DESCRIPTION

Advanced Placement Chemistry is designed to be comparable to a college-level general chemistry course. Successful completion of this course and the AP Examination may fulfill the college requirement for freshman chemistry and the associated lab. Students taking this course will be substantially better prepared for any college science course due to the intensive nature of study required by the content covered, the math involved, the use of higher-level thinking skills, and the more involved laboratory experience. Major topics covered will include the structure of matter, states of matter, chemical reactions, kinetics, thermochemistry, equilibrium, acid-base, and electrochemistry. Students will learn numerous chemical calculation skills in the study of the content and in the analysis of lab data.

COURSE REQUIREMENTS

Students should have completed Honors Chemistry with an A or high B and have comparable high-level math skills. This course draws heavily upon concepts taught in Chemistry 1 and students are expected to review much of the information on their own and/or come see me outside of class time for extra help in order to solidify their understanding of the introductory content.

REQUIRED MATERIALS

The following should be brought to class **EVERY DAY**:

- ✚ A **1-inch (or larger)** binder with loose-leaf paper
- ✚ **Pencil, pen, and eraser**
- ✚ **Scientific or Graphing Calculator—Cell phones (or other handheld electronic devices) cannot be used as calculators!**

COURSE WEBSITE




The course website can be found at chemistrye.weebly.com. Resources regarding content covered in class, including Powerpoints, guided notes, and homework will be posted. Please check the website regularly to access resources and announcements.

COURSE EXPECTATIONS

- 1. Expect Respect**
 - This applies to members of the class as well as class materials
 - One mic
- 2. Be Professional**
 - Be **on time**, be **prepared**, be **ready to learn**
 - **Electronics— Out of sight, out of mind! May not be used unless given prior permission from the instructor.**
 - Take **personal responsibility**—see me if you missed class or need to make up a lab/assessment.
- 3. Chem is try**
 - Actively **engage** and **participate** in class, put effort into all assignments, **study** for assessments
 - **Reach out** to me early on if you are struggling.
- 4. Keep it real, keep it safe!**
 - Follow the laboratory safety rules contract when doing labs
 - Since this room is also a lab space, there is **no food, drink, or gum** allowed in the lab area regardless of whether or not a lab is being done that day in class
 - Students found **not following the lab safety rules may be dismissed from lab and will receive a 0 for that lab assignment**

GRADING POLICY

Final grades will be calculated using a weighted average as follows:

-  **Tests/Quests/Quizzes—50%**
-  **Laboratory Work/Projects—25%**
-  **Homework/Classwork/Independent Studies—25%**

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Assessments

In order to assess and report on the student's progress and understanding, quizzes may be given prior to the completion of a unit. There will be tests or quests given at the conclusion of each unit or subunit as indicated by the course pacing guide. They will cover information from class material, notes, assignments, laboratory experiments, demonstrations, etc. In general, these tests will be a combination of multiple choice and short answer items, as well as chemical calculations (where appropriate). I do not offer test retakes, but I will provide opportunities for students to review missed questions and earn points back towards their test grades.

Laboratory Assignments

Laboratory work is generally completed in groups. Not completing the pre-lab ahead of time will prohibit you from starting the lab with everyone else. At the end of the lab, you will answer post-lab questions and the lab will be collected. There will be at least one or two labs for each unit or sub-unit. There will also be at least 1 formal lab report per quarter which must be typed up according to the specifications in the handout.

Independent/Case Studies

Students will be responsible for learning some material independently or applying class concepts to completing a case study. Material will be assigned to be completed by students both inside and outside of the classroom and will require internet use.

Homework

The topics covered in this course are abstract and challenging. Daily practice, review, and enrichment are essential to success in this course. Homework assignments will be assigned each class period and may be graded for completion or correctness.

Extra Credit: There will be various extra credit opportunities given throughout the year to allow students to gain points back to their overall grade. Extra credit serves as a source of additional points, not a replacement or alternative assignment.

Exams

All students must take the midterm semester exam; it counts for 20% of your midterm grade, per school policy. All students will have a final project that will be counted as the final exam grade. There are no exemptions.

LATE WORK:

All work is due at the beginning of class. Work turned in during or at the end of class is still considered late. Late work will receive an automatic 20% deduction and any late work that is not turned in by the unit test will receive no credit. Exceptions will be made for illness and extenuating circumstances, but it is your responsibility to discuss these options with me.

ABSENCES

It is best not to miss a class unless absolutely necessary. If you are absent from this class for any reason, it is **your responsibility** to seek the information necessary to make up your work as soon as possible. Check the course website for postings of new assignments, due dates, etc. Missed work and tests will be made up in accordance with the regulations as prescribed in the **Student Handbook**: Students with an unplanned, excused absence will have a time period equal to the number of days absent plus one more day to submit

missing assignments and to take missed assessments. Students with a planned absence, on the day they return to school, must submit all assignments that are due and must be ready to take any assessments scheduled for the missed day(s) and/or the day of return. If labs are missed due to absences, students will be expected to attend a make-up lab session either during help session or outside of school hours.

ONLINE GRADEBOOK

This portal will give students and parents access to student grades and attendance via the Internet. I will update assignments/grades at the end of each week.

COURSE OUTLINE

This course is organized around the following six principles, which are known as **big ideas** in the AP Chemistry Curriculum Framework.

- 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 of 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.