

AP Chemistry

Course Syllabus – Student Version

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Tutorials	Mondays and Tuesdays 3:20 – 4:00 or by appt.

Welcome to AP Chemistry

AP Chemistry provides you with an opportunity to develop a conceptual framework for general chemistry emphasizing applications of chemical knowledge and critical thinking skills in the following areas: Structure of Matter, States of Matter, Reactions, Descriptive Chemistry, and Laboratory Processes and Procedures.

AP Chemistry will help prepare you to function effectively in a scientific and technological society, analyze scientific and societal issues using scientific problem solving, and to appreciate the natural world. AP Chemistry requires a high level of commitment and discipline and focuses on depth of understanding of fundamentals and reasonable competence in dealing with chemical problems. This course contributes to the development of your ability to think clearly and express ideas, orally and in writing, with clarity and logic.

We expect every student enrolled in AP Chemistry to take and pass the AP Chemistry Exam in May. You CAN do it! Success may mean getting up to 8 hours of college credit for freshmen Chemistry. Visit <http://apps.collegeboard.com/apcreditpolicy/index.jsp> to investigate specific colleges.

Texts

- *Chemistry, The Central Science*, 8th edition by Brown, LeMay, and Bursten, Prentice Hall © 2002.
- AP Chemistry Exam Prep Guide of your choice

Grading

Major grades (60% of grade) include AP style tests, lab reports, and lab practicals. Minor grades (40% of grade) include quizzes, lab activities, homework assignments, and class participation.

Prerequisite Knowledge

You need to be proficient in Algebra I and Pre-AP Chemistry. Concurrent enrollment in Pre-Calculus is recommended but concurrent enrollment in Algebra II is OK. As this is essentially a college level Chemistry course, students should have a working knowledge of:

- scientific measurement and calculations
- chemical nomenclature

and a solid introductory knowledge of:

- molar relationships, stoichiometry, and equations
- electronic structure, periodicity and atomic theory
- chemical bonding and molecular geometry
- states of matter including gas laws
- solutions and colligative properties
- thermodynamics and kinetics
- general and acid/base equilibria

AP Chemistry Laboratory

The course includes a laboratory component comparable to college-level chemistry laboratories.

You will work collaboratively to demonstrate mastery of personal and material safety practices, laboratory and measuring equipment, chemical processes and procedures, observing and recording qualitative and quantitative data, calculating and interpreting quantitative data, and effective communication of experimental results. Although you will work collaboratively, each individual submits a complete report for each lab experiment, including a hypothesis, procedure, observations/data, calculations, and a conclusion which includes error analysis. You will compile a lab notebook that will be suitable for presentation to a college chemistry department for college placement.

AP Chemistry

Course Policies

Attendance: Many of the topics taught in chemistry build upon each other, so it is important that all students attend class regularly. It is your responsibility to check the website or the in-class assignment board to keep up with our assignments if you are absent.

Absence on day of lab, quiz, test, or due date: You will take the quiz or test on the day you return. Assignments are due on the day you return with no late penalty for excused absences. You will need to make arrangements with me for make-up labs. If you have been absent several days prior to a quiz or exam, see me about a new test or quiz date.

Late Work: Late work is marked down by 15 points and will not be taken after one day.

Tutorials: Tutorial time is available to you. Come prepared with questions. My schedule is posted in the syllabus and outside my classrooms.

Student conduct: The maintenance of a safe and productive learning environment is our top priority. You are expected to follow laboratory safety rules, HISD's code of student conduct, and any conduct rules established in class. Westside's discipline management system, as described in "The Westside Way Student/Parent Handbook," will be implemented as necessary.

Topics and AP Exam Emphasis

We will prepare for success on the AP Exam by utilizing AP style tests for unit exams. The AP Exam in May will be 180 minutes long with 75 MC (multiple choice) and 6 FR (free response) questions. Our unit tests will be 90 minutes long with approx. 36 – 40 MC questions and 2-3 FR questions. We will also implement AP style grading which I will explain in class. The AP Exam overview below provides a framework for your preparation.

AP Multiple Choice (75 Questions - 50% of AP CHEM EXAM Grade)

I. Structure of Matter (20%)

- Atomic theory and structure
- Chemical bonding forces
- Molecular models and geometry
- Nuclear chemistry

II. States of Matter (20%)

- Gases
- Liquids and solids
- Solutions

III. Reactions (35 – 40%)

- Reaction types: acid/base, precipitation, oxidation-reduction
- Electrochemistry
- Stoichiometry
- Equilibrium
- Kinetics
- Thermodynamics

IV. Descriptive Chemistry (10 – 15%)

- Reactivity and reaction products
- Periodic relationships
- Intro to Organic: hydrocarbons and functional groups

V. Laboratory (5 – 10%)

- Personal and material safety practices
- Laboratory and measuring equipment
- Chemical processes and procedures
- Observing and recording qualitative and quantitative data
- Calculating and interpreting quantitative data
- Effective communication of experimental results

**No calculators are allowed on the AP Exam MC questions so no calculators will be allowed on our unit exam MC questions.*

AP Free Response (6 Questions - 50% of AP CHEM Exam Grade)

Q#1 – Q#3 will be quantitative (calculators allowed). Q#1 is always an equilibrium problem. Q#4 – 6 will be essay type questions (no calculator allowed). Q#4 is always an equation question involving balancing, predicting products, and a related detail. There is always a lab question – it could be a quantitative or an essay question.