

Pre-AP Chemistry 1

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Email:

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Course Description:

Pre-AP Chemistry is the advanced curriculum that fulfills the Texas science requirement for Chemistry 1. The purpose of this class is to give the students an excellent background in basic Chemistry. It is expected that students will then enroll in either AP or Dual Credit Chemistry for a second year of Chemistry the following school year. Two years of Chemistry will sufficiently prepare them for their college science requirements.

Materials needed each day:

- Pencil or pen and a good eraser
- Chemistry handouts
- Chemistry Student Notebook - for handouts, notes, and classwork
- Student lesson planner with student ID
- Calculator – a classroom set of scientific calculators is available to the students for work in class.

However, I strongly suggest that students purchase their own calculator (preferably a graphing calculator) and learn to use it.

Book: Glencoe Chemistry: Matter and Change

Each student will be issued a book at registration. Since there is a set of Glencoe Chemistry books in my classroom, students have the option of bringing their own book to class each day or leaving it at home. CD's of the book are also available upon request and students may also access the book online at:

<http://www.glencoe.com/sec/science/ose/index.html> **user name:** CM&C **password:** bRanuC7uvA

With the widespread availability of our chemistry book, students will have no problem completing their homework assignments on time, since they will have access to the Glencoe Chemistry book both in class and at home.

Online Homework

Much of the homework for this class will be done online at the University of Texas Homework Service website. Students will be applying soon for an electronic ID and password through UT at Austin which will let them register for this class online. Homework will be downloaded and printed from the Homework Service website each week and answers to the questions will be submitted online by each student. These homework assignments have specific due dates and **the homework service does not take late work**, so pay close attention to when assignments are due

Website for online homework: quest.cns.utexas.edu

Grading Policies:

Grades are calculated using the SISD percentages:

50% - daily grades (includes online homework, graded homework, labs, and quizzes)

40% - exams

10% - final exam (may include district mandated benchmark tests)

Every three weeks I personally hand out and discuss with each student a progress report that details all of their recorded grades. A general progress report from the school showing the grades for all classes is also given to the student to take home to parents.

Pre-AP Chemistry is an accelerated Chemistry class and it is understood that students will work hard both in and out of class. Students are expected to maintain a grade average of 70 or higher at all times, and will be evaluated to determine if they should remain in Pre-AP Chemistry. If a student has an average of less than a 70 at any time during a 3 week progress report interval, recommendations will be made as to whether that student should be placed into a regular Chemistry class. If the student decides to stay in Pre-AP Chemistry, a final evaluation will be performed when the next progress report is given. If the grade at that time is still below 70, the student will have no choice but to transfer to a regular class.

Tutoring:

Tutoring is available from 7:50 – 8:15 each morning in my classroom (Rm 319). Students can also receive tutoring in the Math Lab every day – hours are 7:30 am to 5:00 pm

Syllabus

First nine weeks: August 3 – October 2

I. Introduction to the Periodic Table

II. Safety in the Lab

III. Chapter 2: Data Analysis

Units of measurement, scientific notation and dimensional analysis, how reliable are measurements?, and representing data

IV. Chapter 3: Matter – Properties and Changes

Properties of matter, changes in matter, mixtures of matter, elements and compounds

V. Chapter 4: The Structure of the Atom

Early theories of matter, subatomic particles and the nuclear atom, how atoms differ, unstable nuclei and radioactive decay.

VI. Chapter 5: Electrons in Atoms

Light and quantized energy, quantum theory and the atom, electron configurations.

Fall Intersession: October 5 - October 16

Second nine weeks: October 19 – December 18

I. Chapter 6: The Periodic Table and Periodic Law
Development of the Modern Periodic Table, classification of the elements, periodic trends

II. Chapter 8: Ionic Compounds
Forming chemical bonds, the formation and nature of ionic bonds, names and formulas for ionic compounds, metallic bonds and properties of metals.

III. Chapter 9: Covalent Bonding
The covalent bond, naming molecules, naming acids, molecular structures, molecular shape, electronegativity and polarity

IV. Chapter 10: Chemical Reactions
Reactions and equations, classifying chemical reactions, reactions in aqueous solutions.

Third nine weeks: January 4 – March 12

I. Chapter 11: The Mole
Measuring matter, mass and the mole, moles of compounds, empirical and molecular formulas, the formula for a hydrate.

II. Chapter 12: Stoichiometry
What is stoichiometry?, stoichiometric calculations, limiting reactants, percent yield

III. Chapter 13: States of Matter
Gases, forces of attraction, liquids and solids, phase changes.

IV. Chapter 14: Gases
The gas laws, the combined gas law and Avogadro's Principle, the Ideal Gas Law, gas stoichiometry.

Spring Intersession: March 15 – March 26

Fourth nine weeks: March 29 – June 4

I. Chapter 15: Solutions
What are solutions?, solution concentration, colligative properties of solutions

II. Chapter 19: Acids and Bases
Acids and bases: an introduction, strengths of acids and bases, what is pH?, neutralization

III. Chapter 16: Energy and Chemical Change
Energy, heat in chemical reactions and processes, thermochemical equations, calculating enthalpy change, reaction spontaneity.

IV. Chapter 17: Reaction Rates
A model for reaction rates, factors affecting reaction rates, reaction rate laws, instantaneous reaction rates and reaction mechanisms.

V. Chapter 18: Chemical Equilibrium:
Equilibrium: at state of dynamic balance, factors affecting chemical equilibrium, using equilibrium constants.

Classroom Rules – Mrs. Sanftner – Pre-AP Chemistry

Classroom Procedures:

Class time is reserved strictly for learning, so there will be several procedures all students will follow:

- 1) For safety reasons the teacher's desk, the storeroom, and any lab equipment stored on the lab tables are off limits to students unless otherwise directed.
- 2) Seats in the lab will be assigned. When it is time for class, students will take their assigned seats. Tardy students will be sent to the office. When class is over, please wait to leave until you are dismissed.
- 3) Please use the restroom before class begins. If you must leave the classroom for any reason after class has started, **you will need your lesson planner (with your name written in ink at the top of the page) and student ID** in order to do so. If you do not have these, please do not ask to leave the classroom.
We will also observe Mrs. Mathews' 20 minute rule – students may not leave the classroom the first or last 20 minutes of the period.
- 4) Cell phones and music players with headphones are not to be brought out at any time during class. Please keep these items out of sight. If you choose to bring them out, I will confiscate them and take them to the office.

Daily work: 50% of grade

Labs, notes, online homework, quizzes, workbook assignments, and worksheets will constitute the daily work grades. Any homework requested by the teacher is due at the beginning of the period on or before the due date – after we begin class, work will be considered late. I will accept late work (except online homework), but never for full credit – a minimum of 50 points will be deducted for work handed in after the due date. If you are absent for any reason the day an assignment is due, the work must be handed in to me at the beginning of class the day you return in order to receive full credit.

Remember: YOU are responsible for all make-up work. I will not remind you!

A chemistry notebook will be required and brought to class each day. In it you will keep your table of contents, class rules, safety rules, periodic table, valence chart and other handouts; as well as chapter notes, class assignments, and exams. I will collect these notebooks periodically, assess their completeness, and assign a grade. Neatness counts.

Because a chemistry lab is a potentially dangerous place, lab safety rules will be followed at all times, even when no actual labs are in progress. Students who are caught engaging in any activity deemed dangerous by the teacher will immediately be sent to the office, and given a zero for the day. The actual lab work will usually be done in assigned groups of 3-4 people, although the written work is the responsibility of each student

Exams: 40% of grade

Exams will be given approximately once every two weeks. Since you will be notified well in advance of the test dates, everyone present on those days will be expected to take the exam, regardless of any previous absences. Those people absent on the day of the exam will be tested in class the day they return.

Nine Week Exam – 10% of grade

An exam over all material covered for the nine week period will be given the last week of each grading period. This includes the district benchmark exam as well as the class exam.