AP Chemistry
Course Syllabus

Instructor: Rachel Confer
Email: conferr@hpisd.org
Tutorials: 7:45 – 8:10 am Mon and Wed
3:35 – 4:00 pm Mon-Thurs
Textbook: Chemistry: The Central Science by Brown & LeMay 15th Edition
Required Supplemental Material:

Scientific calculator	Mastering Chemistry Login
Wired headphones	AP Classroom Login
Flash drive	

Grading Policy:

Major: 60%	Tests
Intermediate: 25%	Labs & quizzes
Daily: 15%	Homework & daily grades

Wishlist/classroom donation items (totally optional but greatly appreciated!):
*Tissues, Paper Towels, Hand sanitizer

Exams and retakes: There will be one test over each unit. Some units will cover a single chapter while other units may cover multiple chapters. To understand the concepts required to be successful in this class, students will be given the opportunity to master the material before moving on to a new topic. When students do not demonstrate understanding in a topic, retest opportunities will be provided in the MAJOR category. To retake an assessment, a student must:

(1) Attend at least one tutorial session after the assessment to correct mistakes on the original assessment.
(2) Attend a retake session as scheduled by the teacher. If they miss the scheduled retake time, the student forfeits the test retake and will retain the original grade.
(3) Students can retake any major grade up to an 90

There will not be formal study guides for exams, but a practice exam will be published on AP classroom. These questions will not be the same questions that appear on the test, but will give an idea of what AP style questions are like and what to expect going into the exam. All material from the unit could be assessed in any format, so it is imperative that students use their notes and homework to prepare as well.

Quizzes: Will be given once per unit. For longer units, there may be more than one quiz to help break up the material and offer more checkpoints. Students will be notified of quizzes in advance.

Homework: Assignments will be posted on-line on Mastering Chemistry. There is usually one homework assignment per chapter and students have one week to complete homework assignments. There will typically be more than one homework assignment per unit.

Late work: Assignments that are due for a grade must be turned in during class on the day it is due to receive full credit. Late assignments will be accepted for a maximum grade of 70%, and late work will not be accepted after the next unit has begun. In this case, the grade will remain a zero.

Attendance and Make-Up Procedures:
-If absent, be sure to make up any notes that were missed. This can be done by looking at a friend's, the key, or coming in to tutorials for help/reteach of the material missed.
-You have as many days as you were absent to complete make-up work
-If an exam day was missed (and only the exam day) you will be expected to take the exam on the day you return to class. If you missed material or many days leading up to the test, we will work together to make up all missed work.
-Labs activities should be made up during a time scheduled together. It is imperative that labs are made up, because there will be lab work questions on the AP exam. Experience in the lab is invaluable. If a makeup lab is not available, I will give you sample data.

Academic dishonesty:
If a student is found cheating on any assignment, quiz, test, or lab they will receive a zero and parents will be contacted.

Technology (copied from kiltie):

The use of cell phones, headphones/earbuds, smart glasses, watches or other personal communication devices are not permitted during the school day on school property. See House Bill 1481. Students are expected to “secure” and keep devices in provided Yonder pouches during the school day on school property. Personal communications devices include phones, earbuds/headphones, smart glasses, and smart watches. If a student is seen in possession or use of a personal communication device, they will be referred for disciplinary action following a progressive disciplinary consequence matrix that includes in-school suspension.

Parent/Teacher Meetings

If you would like to get together to discuss anything throughout the school year, please always feel free to reach out and we can put something on the calendar. I have also linked a calendar sign up here if you would like to come during first period on a Monday sometime.

If you have any questions, please don’t hesitate to contact me. I will do my best to get back to you as soon as possible so we can have the best year possible!

Year at a Glance

FIRST NINE WEEKS	**SECOND NINE WEEKS**
Unit 1: Atomic Structure and Properties ● Moles and Molar Mass ● Atomic Mass Spectra ● Composition of Pure Substances and Mixtures ● Atomic Spectra and Electron Configuration ● PES & Periodic Trends ● Ionic Compounds Unit 2: Compound Structure and Properties ● Types of Chemical Bonds ● Types of Intramolecular Forces ● Ionic Solids, Metals & Alloys ● Lewis Structures, resonance and formal charge ● VSEPR & Molecular Geometry Unit 3: Properties of Substances and Mixtures ● Types of Intermolecular Forces ● Types of Solids ● Properties of Liquids and Gases ● Kinetic Molecular Theory and the Gas Laws ● Behavior of Real Gases ● Solutions and Mixtures ● Units of Solubility ● Spectroscopy, Electromagnetic Spectrum and Light ● Beer – Lambert’s Law	Unit 4: Chemical Reactions ● Chemical Reactions and Net-Ionic Reactions ● Chemical and Physical Changes ● Stoichiometry ● Titration ● Acid-Base Reactions ● Oxidation-Reduction Reactions Unit 5: Chemical Kinetics ● Reaction Rates and Rate Laws ● Concentration Change Over Time ● Elementary Reactions and Reaction Mechanisms ● Catalysts & Intermediates ● Equilibrium Approximation

THIRD NINE WEEKS

Unit 6: Thermochemistry

- Endothermic and Exothermic Processes
- Energy Diagrams
- Heat Transfer and Calorimetry
- Enthalpy of Fusion and Vaporization
- Enthalpy of Reactions
- Enthalpy of Formation, Hess's Law, Bond Energies

Unit 7: Equilibrium

- Introduction to Equilibrium
- Reaction Quotient and Equilibrium Constant
- Properties of the Equilibrium Constant
- Representations of Equilibrium
- Reaction Quotient and LeChatlier's Principle
- Solubility Equilibria
- Common Ion Effect

Unit 8: Acids and Bases

- Introduction to Acids and Bases
- Calculating pH and pOH of Strong Acids and Bases
- Weak Acid and Base Equilibrium
- Buffers & Buffering Capacity
- Titration of Acids and Bases
- Relative Strength of Acids and Bases
- Hendersen-Hasselback Equation

FOURTH NINE WEEKS

Unit 9: Thermodynamics and Electrochemistry

- Entropy, Absolute Entropy and Entropy Change
- Gibbs Free Energy, Thermodynamic Favorability
- Difference Between Thermodynamically Favorability & Kinetics
- Free Energy and Equilibrium
- Galvanic Cells and Electrolytic Cells
- Free Energy and Cell Potential
- Nonstandard Cell Potential
- Electrolysis and Faraday's Law

Review for AP Exam