

Advanced Placement Chemistry
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Course Guidelines

You will be expected to bring the following materials to class every day:

Textbook – your chemistry text is *Chemistry: The Central Science* by Brown, LeMay & Bursten.

Three-ring Binder – This should be a binder dedicated to Chemistry only. Be sure to keep some blank sheets of paper for recording lecture notes and other important information. All class hand-outs, quizzes and assignments should be kept in this binder. The binder should have tabs for the following: Notes, Labs and Demos, Tests & Quizzes, and Homework.

Calculator – A scientific calculator is necessary for this course.

Pens/Pencils, etc. – Please note that only blue or black ink is acceptable for written work that you intend to present for evaluation. While pencils are useful for recording some events and activities, please do NOT use pencils for any work handed in.

You will be expected to observe and comply with the following policies:

Reading – You are responsible for reading the assigned sections of your textbook. You will be informed of these in class. There will be occasional “pop quizzes” on assigned reading.

Class Notes – Materials presented during discussion will appear in lab and on quizzes, tests and exams. Take notes and review them often (daily?) Keep these in your binder.

Homework and other Assignments – These are to be completed in blue or black ink and are due at the start of class on the day assigned. Late homework will be accepted upon the day of your return to class from EXCUSED ABSENCES ONLY.

Quizzes – Short quizzes may be given at any time to measure your daily progress. Some quizzes will be announced, some will not.

Laboratory – Most labs will require simply turning in a completed lab worksheet. You will be informed before the lab begins if a formal lab report will be turned in.

Tests – Tests will consist of multiple choice questions, problem-solving questions and short essays. Typically, there are three tests each quarter, depending on the length and degree of difficulty of the units involved.

Participation – Good participation includes: having the previously listed supplies, and being prepared to use them when class begins; listening while others are speaking; speaking in turn, and behaving in a way that advances the learning process for all present.

Students will be evaluated daily and may gain or lose participation points by the following grading scheme.

Being on time and prepared	+4
Turning in homework on time	+3
Participation	+1
Excellent participation	+2

Being tardy	-2
Disruptive behavior	-2
Off task	-1

GRADING PROCEDURE:

1. MAJOR TESTS
(each quarter) 40%
2. DAILY GRADES
(homework, quizzes,
Class participation) 20%
3. LAB REPORTS 20%
4. FINAL EXAM
(of each semester grade) 20%

GRADING SCALE:

90-100	A
80-89	B
75-79	C
70-74	D
0-69	F

Make-up Work – If you have an excused absence, take the initiative in making up missed assignments. Materials due during your absence must be turned in the day after you return to class in order to receive full credit.

Office Hours – I will be available every Wednesday afternoon from 2:15-3:15 PM for helping students. If you are not able to meet at that time, please make arrangements with me for an alternate meeting time convenient for both of us.

Course Outline and Description of Topics*:

Unit	Title	Description (including, but not limited to)	Text
1	Matter & Measurement	Classification, Properties & Measurement of Matter	Ch. 1
2	Atoms, Compounds, Nomenclature	Atomic Theory, Isotopes, Periodic Chart, Naming Compounds	Ch. 2
3	Stoichiometry	Chemical Equations, Mass, The Mole, Empirical Formulae, Limiting Reactants, Percent Yield	Ch. 3
4	Chemical Reactions	Solutions, Solubility, Predicting Reactions,	Ch. 4
5	Thermochemistry	Nature of Energy, Units of Energy, 1st Law of Thermodynamics, Enthalpy, Hess's Law	Ch. 5
6	Atomic Models	Properties of Electromagnetic Radiation, Quantum Energy, Photons, Electron Configurations	Ch. 6
7	Periodic Properties	Atomic Radii, Ionization Energies, Electron Affinity, Electronegativity	Ch. 7
8	Bonding, Molecular Geometry	Lewis Structures, Bond Types, Molecular Shapes, VSEPR Theory, Hybridization	Ch 8, 9.1-9.6, 11.2
9	Gas Laws	Gas Characteristics, Kinetic Molecular Theory, $PV=nRT$ and associated laws	Ch. 10
10	Phase Changes	Properties of Liquids & Solids, Phase Diagrams, Solid Structures and Bonding	Ch. 13
11	Solutions	Solution Process, Saturation, Colligative Properties	Ch. 13
12	Kinetics	Reaction Diagrams, Activation Energy, Rates and Equilibrium Mechanisms, Catalysts	Ch.14
13	Gas Equilibrium	Equilibrium Constants, Equilibrium Concentration, LeChatlier's Principle	Ch. 15
14	Aqueous Equilibrium	Acid/Base Theories, pH Scale, Strong/Weak Acids and Bases, Buffers, Titrations	Ch. 16, 17
15	Thermodynamics	Spontaneity, Reversible and Irreversible Processes, 2 nd Law of Thermodynamics, Gibb's Free Energy	Ch. 19
16	Electrochemistry	Balancing Redox Reactions, Voltaic Cells, Electrolytic Cells, Nernst Equation, Batteries, Electroplating	Ch. 20
17	Organic Chemistry	Hydrocarbon Nomenclature, functional Groups, Isomers, Chirality	Ch. 25
18	Coordination Compounds	Coordination Complexes, Chelates	Ch. 24

*This outline and schedule is a guide only; deviations from this plan may occur.