

**AP CHEMISTRY COURSE SYLLABUS
FIRST SEMESTER**

Textbook: Chemistry, Zumdahl & Zumdahl 9th edition (2014)

SUPPLIES: notebook binder, lab notebook (graph paper, hard bound), calculator, Albertio, and Princeton Review Cracking the AP Chemistry exam.

GRADING SCALE:

97-100 A+	77-79 C+
93-96 A	73-76 C
90-92 A-	70-72 C-
87-89 B+	68-69 D+
83-86 B	66-67 D
80-82 B-	65 D-
<65 F	

GRADING PROCEDURE:

1. Quarter 1 (40%) and Quarter 2 (40%)
 - a. Major tests (50%)
 - b. Daily grades: quizzes, homework (20%)
 - c. Lab (30%)
2. Midterm exam (20%)

TOPICS TO BE COVERED:

Chapter #	Chapter Title	Page #	Unit	Big Idea
1	Matter and measurements	1-31	1	1
2	Atom, Molecule, Ion	42-70	1	2
3	Stoichiometry	81-123	4	1
4	Chemical Reactions and Solutions	139-177	4	3
5	Gases	189-230	3	2
7	Electronic structure of Atoms and Periodicity	295-338	1	2
8	Chemical Bonding	351-402	2	2
9	Molecular Bonding	415-442	2	2
10	IMF and Liquids, Solids	453-496	3	3
11	solutions and CP	511-540	4	3,4

The following labs (included in both semesters) will require 25% of the instructional time. Guided inquiry labs are in bold. Students will keep a lab notebook during both semesters. All labs will require data reporting, calculations, and analysis as directed in each assigned lab. All guided inquiry labs require a full lab report: title, date, hypothesis, materials, procedure, data, analysis and an individual conclusion. Individuality of conclusions will be compared through turnit.com.

LABS:

Lab Number	Lab Name	Science Practices
1	Separation of a Solid Mixture: Sand	2 4 5 6

1	Separation of a Solid Mixture: Sand, Salt and Ammonium Chloride	2, 3, 4, 5
2	Pre vs Post 1982 Penny Composition: Comparison of physical properties	2, 3, 4, 5
3	Specific Heat of Metal	1, 2, 3, 4, 5, 6, 7
4	Separation of a Dye Mixture Using Chromatography (<i>Flinn Scientific Advanced Inquiry kit</i>)	1, 2, 4, 5, 6, 7
5	Formula of a hydrate	1, 2, 4, 5, 6, 7
6	Cu to Cu	1, 2, 3, 4, 6, 7
7	The Molar Relationship involving Mass and Volume	1, 2, 4, 5, 6
8	Predicting Solubility Rules / Reactions	1, 3, 4, 5, 6, 7
9	Analysis of Food Dyes in Beverages (<i>Flinn Scientific Advanced Inquiry kit</i>)	1, 2, 3, 4, 5, 6, 7

AP CHEMISTRY COURSE SYLLABUS SECOND SEMESTER

Textbook: Chemistry, Zumdahl & Zumdahl 9th edition (2014)

SUPPLIES: notebook binder, lab notebook (graph paper, hard bound), calculator, Albertio, Princeton Review Cracking the AP Chemistry Exam

GRADING SCALE:

97-100	A+	77-79	C+
93-96	A	73-76	C
90-92	A-	70-72	C-
87-89	B+	68-69	D+
83-86	B	66-67	D
80-82	B-	65	D-

<65 F

GRADING PROCEDURE:

Quarter 1 (50%) and Quarter 2 (50%)

- a. Major tests (50%)
- b. Daily grades: quizzes, homework (20%)
- c. Lab (30%)

TOPICS TO BE COVERED:

CHAPTER #	CHAPTER TITLE	PAGES	UNIT	BIG IDEA
12	Kinetics	522-592	5	3
13	Equilibrium	605-641	7	3
14	Acid/Base/Buffers	652-700	8	3
15	Acid/Base Equilibria	711-749	8	3
16	Solubility, K _{sp}	758-780	7	3,4
6	Thermochemistry	245-284	6	4
17	Entropy/ Free Energy	787-822	9	4
18	Electrochemistry	832-876	9	4

LABS:

Lab Number	Lab Name	Science Practices
1	Rate of Decomposition of Calcium Carbonate (<i>Flinn Scientific Advanced Inquiry kit</i>)	1, 2, 3, 4, 5, 6, 7
2	Applications of LeChatelier's Principle (<i>Flinn Scientific Advanced Inquiry kit</i>)	1, 2, 3, 4, 5, 6, 7
3	Hydrolysis of Salts	1, 3, 5, 6, 7
4	Determination of the K_a of Acetic Acid	1, 2, 3, 5, 6, 7
5	Analysis of Hydrogen Peroxide (<i>Flinn Scientific Advanced Inquiry kit</i>)	1, 2, 3, 4, 5, 6, 7
6	Relating Equilibrium, pH, and Solubility Product Constant	1, 2, 3, 5, 6, 7
7	Designing a Hand Warmer (<i>Flinn Scientific Advanced Inquiry kit</i>)	1, 2, 3, 4, 5, 6, 7
8	Voltage-Voltage-Voltage: constructing galvanic cells	1, 2, 3, 4, 5, 6, 7