New Diana High School

AP Chemistry

Course Syllabus 2017-2018
Instructor: Alicia Barrett
Conference Times: 8:00 - 8:40 am Monday - Thursday (By Appointment)
Tutorials: 3:30– 4:00 pm Monday - Thursday
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AP CHEMISTRY ESSENTIALS

Textbooks – Chemistry (AP® Edition)

- AUTHORS: Steven S. Zumdahl; Susan A. Zumdahl, 10th Edition, 2016.
- **ISBN-13:** 9781133611103

- The College Board. AP Chemistry Guided Inquiry Experiments: Applying the Science Practices. 2013.

Course Description

Advanced Placement Chemistry is designed by the College Board and their standards on a freshman level chemistry course; General Chemistry. Students will take the AP Chemistry Examination in May and based on their results they may receive college credit for General Chemistry or place out of General Chemistry and opt to go straight into Organic Chemistry while spending more time and focus on undergraduate research. The school schedule follows eight 50-minute periods each day. **Prerequisites for the course are successful completion, grade of "C" or better, in two previous years of math and science with one of those science courses being the Pre-AP chemistry course or on level chemistry with teacher approval.** A minimum of 25 percent of the scheduled instructional time will be devoted to the laboratory program including class discussions regarding appropriate procedures and quantitative analysis of inquiry based as well as traditional format laboratory investigations **[CR 5a]**.

In the two semesters of AP Chemistry students will explore, investigate and **problem solve**. In addition, it is expected of students to spend at least an additional four to five hours each week outside of class studying and applying their chemistry content knowledge to problem sets and laboratory reports. It is expected all Big Ideas, Enduring Understandings, and Learning Objectives be studied and evaluated in both formative and summative fashion before April 15 **[CR 2]**. This will provide for approximately three weeks of class time to continue the laboratory component of the class and to review the course material focusing on the overall student development of Enduring Understandings from integration of the Learning Objectives and Science Practices with the Big Ideas as described in the AP Chemistry Curriculum Framework **[CR 2]**. The content in this course can be achieved with great work-ethic and motivation resulting in preparation for the AP Chemistry Examination and future success in college science courses.

Curriculum Requirements

	Curriculum Requirements	Pages
CR1	Students and teachers use a recently published (within the last 10 years) college-level chemistry textbook.	1,2
CR2	The course is structured around the enduring understandings within the big ideas as described in the AP Chemistry Curriculum Framework.	1,2,3,4,7
CR3a	The course provides students with opportunities outside the laboratory environment to meet the learning objectives within Big Idea 1: Structure of matter.	2,7
CR3b	The course provides students with opportunities outside the laboratory environment to meet the learning objectives within Big Idea 2: Properties of matter-characteristics, states, and forces of attraction.	2,7
CR3c	The course provides students with opportunities outside the laboratory environment to meet the learning objectives within Big Idea 3: Chemical reactions.	2,5
CR3d	The course provides students with opportunities outside the laboratory environment to meet the learning objectives within Big Idea 4: Rates of chemical reactions.	2,8
CR3e	The course provides students with opportunities outside the laboratory environment to meet the learning objectives within Big Idea 4: Rates of chemical reactions.	2,6
CR3f	The course provides students with opportunities outside the laboratory environment to meet the learning objectives within Big Idea 6: Equilibrium.	2,8
CR4	The course provides students with the opportunity to connect their knowledge of chemistry and science to major societal or technological components (e.g., concerns, technological advances, innovations) to help them become scientifically literate citizens.	2,5,9-10
CR5a	Students are provided the opportunity to engage in investigative laboratory work integrated throughout the course for a minimum of 25 percent of instructional time.	1,2,5
CR5b	Students are provided the opportunity to engage in a minimum of 16 hands-on laboratory experiments integrated throughout the course while using basic laboratory equipment to support the learning objectives listed within the AP Chemistry Curriculum Framework.	2,5,6,7,8,9
CR6	The laboratory investigations used throughout the course allow students to apply the seven science practices defined in the AP Chemistry Curriculum Framework. At minimum, six of the required 16 labs are conducted in a guided-inquiry format.	2,5,6,7,8,9
CR7	The course provides opportunities for students to develop, record, and maintain evidence of their verbal, written, and graphic communication skills through laboratory reports, summaries of literature or scientific investigations, and oral, written, and graphic presentations.	2,3

Objectives
Students will:

1. Learn the inquiry process through numerous laboratory investigations.

2. Gain an understanding of the six big ideas as articulated in the AP Chemistry Curriculum Framework. **[CR2]**

3. Apply mathematical and scientific knowledge and skills to solve quantitative, qualitative, spatial, and analytic problems.

4. Apply basic arithmetic, algebraic, and geometric concepts.

5. Formulate strategies for the development and testing of hypotheses.

6. Use basic statistical concepts to draw both inferences and conclusions from data.

7. Identify implications and consequences of drawn conclusions.

8. Use manipulative and technological tools including the Texas Instruments TI-84 PLUS Handhelds, Vernier LabQuests, Vernier Probes, and Vernier's LoggerPro software, and Chrome Books lap top computers with Google Sheets for data analysis.

9. Measure, compare, order, scale, locate, and code accurately.

10. Do scientific research and report and display the results of this research.

11. Learn to think critically in order to solve problems.

Laboratory Work
All of the laboratory experiments in this course are hands-on. Students work individually or in a group of two depending upon the lab. They collect, process, manipulate, and graph data from both qualitative and quantitative observations. Inquiry is emphasized in many of the experiments that students complete. The laboratory work requires students to design, carry out, and analyze data using guided inquiry principles. For all labs, students are required to report the purpose, procedure, all data, data analysis, error analysis, results, and conclusions in a lab report that is submitted for grading. **[CR7]** All laboratory experiments are intended to be completed within two class periods (95 - 100 minutes).

Technology
Students will use technological tools including the Texas Instruments TI-84 PLUS Handhelds, Vernier LabQuests, Vernier Probes, and Vernier's LoggerPro software, and Chromebook laptop computers with Google Sheets for data analysis.

Laboratory Notebook
A laboratory notebook is required for the course. All completed lab reports documenting all lab experiences must be included in the notebook. The notebook is checked every six weeks with a final check at the end of the course. **[CR7]**

AP Chemistry Big Ideas

BI 1	The Chemical Elements are fundamental building materials of matter, and all matter can be understood in terms of arrangements of atoms. These atoms retain their identity in chemical reactions.
BI 2	Chemical and physical properties of materials can be explained by the structure and the arrangement of atoms, ions, or molecules and the forces between them.
BI 3	Changes in matter involve the rearrangement and/or reorganization of atoms and/or the transfer of electrons.
BI 4	Rates of chemical reactions are determined by details of the molecular collisions.
BI 5	The laws of thermodynamics describe the essential role of energy and explain and predict the direction of changes in matter.
BI 6	Any bond or intermolecular attraction that can be formed can be broken. These two processes are in dynamic competition, sensitive to external conditions and external perturbations.

Course Outline [CR2]

Chapters in Zumdahl *Chemistry*	**AP Chemistry Topic Covered**
1. Chemical Foundations	None
2. Atoms, Molecules, and Ions	Atomic Theory & Atomic Structure **(BI 1 & 2)**
3. Stoichiometry	Stoichiometry **(BI 3)**
4. Solution Stoichiometry & Chemical Analysis	Reaction Types & Stoichiometry **(BI 3)**
5. Gases	Gases **(BI 1 & 2)**
6. Thermochemistry	Thermodynamics **(BI 5)**
7. Atomic Structure and Periodicity	Atomic Theory & Atomic Structure **(BI 1 & 2)**
8. Bonding -- General Concepts	Chemical Bonding **(BI 1 & 2)**
9. Covalent Bonding: Orbitals	Chemical Bonding **(BI 1 & 2)**
10. Liquids and Solids	Liquids & Solids **(BI 1 & 2)**
11. Properties of Solutions	Solutions **(BI 2)**
12. Chemical Kinetics	Kinetics **(BI 4)**
13. Chemical Equilibrium	Equilibrium **(BI 6)**
14. Acids and Bases	Equilibrium **(BI 6)**
15. Aqueous Equilibria	Equilibrium **(BI 6)**
17. Spontaneity, Entropy, and Free Energy	Thermodynamics **(BI 5)**

18. Electrochemistry	Reaction Types **(BI 3)**
19. The Nucleus -- A Chemist's View	Nuclear Chemistry
20. The Representative Elements: Groups 1A Through 4A	Descriptive Chemistry **(BI 2)**
21. The Representative Elements: Groups 5A Through 8A	Descriptive Chemistry **(BI 2)**
22. Organic Chemistry	Descriptive Chemistry **(BI 2)**
AP Chemistry Exam Review	**All**

Assignments

LO *= Learning Objectives,* ***SP*** *= Science Practices* **[CR 5a]**

Chapter 1: Chemical Foundations (10 days)
Read: Pages 1-30
Problems: 19, 21, 23, 25, 27, 29, 21, 33, 35, 37, 39, 41, 43, 45, 51, 53, 55, 57, 59, 61, 63, 65, 69, 71, 75.
Labs: 1) Safety/Lab Skills/Lab Preparation Ion Chromatography
(SP 6.1; LO 2.18) **[CR5b] [CR6]**
2) Kool Aid Chromatography
(SP 1.4, 6.4; LO 2.13) **[CR5b] [CR6]**

Activity: Based on the Kool Aid Chromatography lab, students write an analysis on the GRAS (generally regarded as safe) requirements, the use of, the chemical structure of, and problems associated with certain food dyes. The analysis must specify how the GRAS relates to **societal or technological issues. [CR4]**

Chapter 2: Atoms, Molecules, and Ions (8 days)
Read: Pages 39-69
Problems: 17, 19, 21, 23, 25, 31, 33, 35, 39, 41, 43, 45, 47, 49, 51, 53, 55, 57, 61, 63, 65, 71, 73, 75, 77, 83.
Labs: 1) Determination of Avogadro's Number
(SP 2.2, 6.1; LO 3.6) **[CR5b] [CR6]**

Chapter 3: Stoichiometry (9 days)
Read: Pages 77-115
Problems: 23, 25, 27, 29, 35, 37, 39, 49, 51, 53, 57, 61, 65, 71, 73, 75, 77, 79, 81, 83, 89, 93, 97, 105, 107.
Labs: 1) Guided Inquiry: Determination of the Formula of a Compound
(SP 4.2, 5.1, 6.4; LO 3.5) **[CR5b] [CR6]**
2) Guided Inquiry: Finding the Ratio of Moles of Reactants in a Chemical Reaction
(SP 2.1, 2.2, 4.2, 5.1, 6.4; LO 3.3, 3.5) **[CR5b] [CR6]**
3) Chemical Reactions of Copper and Percent Yield
(SP 1.4, 2.1, 2.2, 4.2, 5.1, 6.1, 6.4; LO 1.19, 3.2, 3.3, 3.4, 3.10)

Activity: LO 3.6: Use data from synthesis or decomposition of a compound to confirm the conservation of matter and the law of definite proportions.

The students present problems to the class in which they demonstrate how to find the empirical formula of a compound from data on the percent composition by mass. **[CR3c]**

Chapter 4: Types of Chemical Reactions and Solution Stoichiometry (11 days)
Read: Pages 127-170
Problems: 9, 11, 15, 17, 19, 21, 23, 25, 29, 31, 35, 37, 39, 43, 47, 51, 55, 57, 61, 63, 65, 67, 73, 75, 79, 81.
Labs: 1) Use of a Primary Standard -- KHC8 H4 O4
[CR5b] [CR6]
2) Reduction of Permanganate
(SP 4.2, 5.1, 6.4; LO 1.20, 3.3) **[CR5b] [CR6]**
3) Guided Inquiry: Progressive Precipitation
(SP 1.5, 2.2, 4.2, 5.1, 6.4; LO 1.19, 2.10, 3.2, 3.3) **[CR5b] [CR6]**

Chapter 5: Gases (9 days)
Read: Pages 179-216
Problems: 19, 23, 27, 31, 33, 35, 41, 43, 45, 51, 57, 61, 63, 67, 69, 71, 73, 75, 79, 81, 87, 89, 97,99.
Labs: 1) Investigating Graham's Law
(SP 2.2, 2.3; LO 2.6) **[CR5b] [CR6]**
2) Ideal Gas Law (SP 2.2, 2.3; LO 2.6) **[CR5b] [CR6]**
3) The Determination of the Molar Mass of a Volatile Liquid
(SP 1.3, 1.4, 6.4, 7.2; LO 2.4, 2.5) **[CR5b] [CR6]**

Chapter 6: Thermochemistry (10 days)
Read: Pages 229-265
Problems: 9, 11, 19, 21, 25, 27, 31, 33, 35, 37, 41, 45, 49, 51, 55, 57, 61, 63, 67, 79, and 81.
Labs: 1) Guided Inquiry: Hess's Law
(SP 4.2, 5.1, 6.4; LO 5.6, 5.7) **[CR5b] [CR6]**
2) Heat of Combustion of Magnesium
(SP 4.2, 5.1, 6.4; LO 5.6, 5.7) **[CR5b] [CR6]**

Activity: LO 5.2: Students relate temperature to the motions of particles, either via particulate representations, such as drawings of particles with arrows indicating velocities, and/or via representations of average kinetic energy and distribution of kinetic energies of the particles, such as plots of the Maxwell Boltzmann distribution. **[CR3e]**

Students are accountable for answering homework questions about particle motions and kinetic energies of a sample at different temperatures while viewing a Podcast. The podcast begins with particulate animations and the narrator interprets the animations to show how kinetic energy distributions can explain the effect of temperature on the rate of a chemical reaction. The questions lead to the interpretation of activation energy on the distribution curve and eventually the refining of collision theory.

Chapter 7: Atomic Structure and Periodicity (10 days)
Read: Pages 275-320
Problems: 17, 19, 21, 23, 25, 27, 31, 33, 37, 39, 41, 45, 55, 57, 61, 65, 67, 69, 73, 77, 81, 83, 85, 91, 103, 111.
Labs: 1) Guided Inquiry: Relationship Between the Spectrum and Absorbance of Light
(SP 4.1; LO 1.15) **[CR5b] [CR6]**
2) Poison in the Kool Aid-A Spectroscopic Inquiry
(SP 4.1, 4.2, 5.1, 6.4; LO 1.15, 1.16) **[CR5b] [CR6]**
3) Beer's Law (SP 4.2, 5.1; LO 3.4) **[CR5b] [CR6]**

Activity: LO 1.10: Justify with evidence the arrangement of the periodic table and apply periodic properties to chemical reactivity.

Students are given several elements pairing them by families or by period and are asked to rationalize the change in electronegativity of each group based on the electronic structure of the atom **[CR3a]**

Chapter 8: Bonding: General Concepts (9 days)
Read: Pages 329-381
Problems: 13, 15, 17, 19, 21, 27, 31 35, 37, 41, 46, 47, 51, 53, 55, 63, 65, 67, 69, 73, 75, 77, 79, 85, 89, 91, 95, and 103.
Lab: 1) Molecular Geometry
(SP 1.4; LO 2.21) **[CR5b] [CR6]**
2) Guided Inquiry: Conductivity of Solids & Metals
(SP 4.2, 6.4; LO 2.22) **[CR5b] & [CR6]**

Activity: LO 2.21: Use Lewis diagrams and VSEPR to predict the geometry of molecules, identify hybridization, and make predictions about polarity.
Students construct balloon models of the arrangement of pairs of electrons around a central atom. They then draw 2D pictures of these arrangements and apply these to predicting the shapes of molecules. **[CR3b]**

Chapter 9: Covalent Bonding: Orbitals (9 days)
Read: Pages 391-417
Problems: 7, 9, 13, 15, 23, 25, 29, 33, 35, 37, 41, 43, 49, 51, 55.

Lab: 1) Determination of the Formula of a Hydrate
(SP 2.1, 4.2, 6.4; LO 3.5) **[CR5b] [CR6]**

Chapter 10: Liquids and Solids (8 days)
Read: Pages 425-474
Problems: 16, 20, 28, 32, 34, 36, 38, 39, 42, 44, 48, 50, 52, 54, 60, 62, 64, 72, 80, 82, 84, 86, 88, 89, 90, and 92.
Labs: 1) The Structure of Crystals
(SP 1.1, 1.4, 7.1; LO 2.19, 2.23, 2.24) **[CR5b] [CR6]**
2) Enthalpy of Vaporization of Water
(SP 6.4, 7.1; LO 2.3) **[CR5b] [CR6]**

Chapter 11: Properties of Solutions (8 days)
Read: Pages 485-518
Problems: 12, 14, 16, 22, 24, 26, 28, 30, 32, 36, 40, 44, 46, 48, 52, 54, 60, 64, 70, 74, 76, 78, 80, 84, 85, and Chapter 11 PowerPoint problem.
Lab: 1) Freezing Point Depression (SP 1.1, 1.2, 6.4; LO 2.8) **[CR5b] [CR6]**

Chapter 12: Chemical Kinetics (12 days)
Read: Pages 527-566
Problems: 9, 11, 15, 19, 23, 25, 27, 29, 31, 33, 35, 37, 41, 43, 47, 49, 51, 53, 55, 59, 63, 65, and 67.
Labs: 1) Reaction Rates
(SP 4.2, 6.4; LO 4.1, 4.2) **[CR5b] [CR6]**

2) Rate Law Determination: Crystal Violet Reaction
(SP 5.1, 6.4; LO 4.1, 4.2, 4.4) **[CR5b] [CR6]**
3) Guided Inquiry: Factors that affect reaction rates and determining reaction rates and reaction mechanisms
(SP 6.2, 7.2; LO 4.5, 4.9) **[CR5b] [CR6]**

Activity: LO 4.8: Translate among reaction energy profile representations, particulate representations, and symbolic representations (chemical equations) of a chemical reaction occurring in the presence and absence of a catalyst.

Students create energy diagrams to explain why catalysts and raising the temperature can increase the rate of a chemical reaction. **[CR3d]**

Chapter 13: Chemical Equilibrium (11 days)
Read: Pages 578-612
Problems: 13, 17, 19, 21, 23, 25, 27, 29, 31, 35, 37, 39, 43, 45, 47, 53, 57, 63, 67, and 73.
Labs: 1) Guided Inquiry: Equilibrium Position
(SP 4.2; LO 6.9) **[CR5b] [CR6]**
2) Equilibrium Constant Determination
(SP 4.2; LO 6.9) **[CR5b] [CR6]**
3) Equilibrium of Ethyl Acetate
(SP 4.2; LO 6.9) **[CR5b] [CR6]**

Activity: LO 6.1: Given a set of experimental observations regarding physical, chemical, biological, or environmental processes that are reversible, student is able to construct an explanation that connects the observations to the reversibility of the underlying chemical reactions or processes.

Students view the NO2 /N2O4 Equilibrium simulation available on the General Equilibria Animations Index page at Iowa State University and verbally report and discuss their answers to teacher supplied questions regarding the number of reactant and product molecules present at a particular point in the equilibrium process, the breaking and forming of bonds during the process, and how the reactant and product molecules are changing in order to illustrate the dynamic nature of equilibrium. **[CR3f]**

Chapter 14: Acids and Bases (11 days)
Read: Pages 623-672
Problems: 17, 25, 27, 29, 31, 33, 37, 39, 41, 43, 51, 59, 63, 65, 69, 71, 75, 77, 83, 87, 97, 101, 103, 113, 115, 117, 121, and 123.
Labs: 1) Ka Prelab Determination of Dissociation Constant of Weak Acids
(SP 1.1, 1.4, 2.3; LO 6.11) **[CR5b] [CR6]**
2) Guided Inquiry: Hydrolysis of Salts
(SP 6.4; LO 6.20) **[CR5b] [CR6]**
3) Determination of Vitamin C and Aspirin Content
(SP 4.2, 5.1, 6.4; LO 1.20) **[CR5b] [CR6]**

Chapter 15: Applications of Aqueous Equilibria (16 days)
Read: Pages 681-739
Problems: 21, 23, 25, 31, 39, 43, 45, 47, 51, 55, 57, 61, 65, 69, 75, 79, 85, 91, 93, 97, 99, 103, 107, and 111.
Labs: 1) Acid-Base Titration (SP 4.2, 5.1, 6.4; LO 1.20) [CR5b] & [CR6]
2) Titration of a Diprotic Acid
(SP 5.1, 6.4; LO 3.2, 6.13) **[CR5b] [CR6]**

3) Titration Curves of Strong and Weak Acids and Bases
(SP 1.4, 6.2, 6.4; LO 1.18, 6.12) **[CR5b] [CR6]**
4) Determination of a Solubility Product Constant
(SP 2.1, 2.2, 2.3, 3.1, 3.2, 3.3, 4.1, 5.1; LO 1.4, 3.3, 6.12, 6.20) **[CR5b] [CR6]**
5) Buffered Solutions
(SP 2.3, 4.2, 6.4; LO 1.4, 6.18, 6.20) **[CR5b] [CR6]**

Chapter 16: Spontaneity, Entropy, and Free Energy (10 days)
Read: Pages 749-782
Problems: 17, 19, 21, 23, 25, 27, 29, 31, 33, 35, 37, 43, 45, 47, 49, 51, 57, 59, 61, and 69.
Labs: 1) Determination of Soluble Chloride
(SP 1.4, 2.2, 2.3, 5.1, 6.4, 7.1; LO 6.22, 6.23, 6.24) **[CR5b] [CR6]**
2) Percentage Calcium in Calcium Supplements
(SP 4.2, 5.1, 6.4; LO 1.19) **[CR5b] [CR6]**

Chapter 17: Electrochemistry (11 days)
Read: Pages 791-829
Problems: 17, 21, 26, 28, 30, 32, 36, 39, 50, 56, 58, 59, 64, 72, 76, 80, 84, 86, 88, 92, and 95.
Labs: 1) A Chemical Activity Series
(SP 3.1, 3.2, 3.3, 4.2, 4.3, 4.4, 5.1; LO 3.3) **[CR5b] [CR6]**
2) Corrosion
(SP 3.1, 3.2, 3.3, 4.2, 4.3, 4.4, 5.1; LO 3.3) **[CR5b] [CR6]**
3) Electroplating
(SP 3.1, 3.2, 3.3, 4.2, 4.3, 4.4, 5.1; LO 3.3) **[CR5b] [CR6]**
4) Guided Inquiry: Electrochemical Cells
(SP 2.2, 2.3, 5.1, 6.4; LO 3.12, 3.13) **[CR5b] [CR6]**

Chapter 18: The Representative Elements: Groups 1A Through 4A
(Chapter 18 & 19 are tested together-8 days)
Read: Pages 875-895
Problems: 1, 7, 9, 15, 17, 19, 21, 23, 25, 27, 29, 31, 33, 35, 39, 41, 43, 45, 47, 51, 53, 55, 57, and 61.
Lab: 1) Using Conductivity to Find an Equivalence Point
(SP 1.1, 6.2, 7.1; LO 2.24, 2.32) **[CR5b] [CR6]**

Chapter 19: The Representative Elements: Groups 5A through 8A
Read: Pages 901-935
Problems: 1, 5,7, 9, 11, 13, 15, 17, 19, 21, 23, 25, 27, 29, 31, 33, 37, and 45.
Lab: 1) Percent Sulfate in a Mixture
(SP 6.4, 7.1; LO 2.1) **[CR5b] [CR6]**

In addition to the above specific activities, students are also required to read and report, in written format, a minimum of three articles from the *Journal of Chemical and Engineering News* and/or *The Journal of Chemical Education*. Journal articles from the previous year are available to the students in the regular classroom. The report must specify how the article relates to **societal or technological issues**, in addition to building a correlation to the content that has been studied within the course. If a student chooses an article from *The Journal of Chemical Education*, the report must specify the results of research that exemplifies how the content of the article has been shown, or desires to show, the increased understanding of the chemical concepts discussed. These three article analyses are expected to be completed during the second semester of the course after a good deal of the class content has been articulated. **[CR 4] [CR 7]**

Tests
A chapter test is assigned for each chapter. A comprehensive, standardized semester exam is administered at the end of 1st semester and a final exam at the end of the year.

AP Exam Review
The final ten full class days before the AP Chemistry Exam are used for exam review and practice tests using old AP Chemistry exam materials. Students work in cooperative groups to solve a packet of free response problems from previous exams. Students practice net ionic equations and are quizzed on their progress. Several practice AP Exams are administered as part of the two-week review prior to the AP Chemistry Exam.

When is the AP exam given?

The AP exam will be offered through the College Board in early May, 2018. This exam is partially multiple choice and partially free-response questions. By scoring a 3, 4, or 5 on the exam, students can receive college credit for an introductory chemistry course from many colleges and universities. To see which colleges participate or to find out more about exam fees and test dates, visit the College Board's website at www.collegeboard.com.

Proposed Format for the AP Chemistry Exam
Section I (*90 minutes*) – 75 multiple choice questions No calculator can be used Score on multiple choice is 50% of total grade 50 out of 75 is an *excellent* score
Section II – 7 free response questions, 3 long and 4 short. Part A (*55 minutes*) – calculator can be used Part B (50 questions) - Calculators can be used. Section two makes 50% of the test.

How will we be graded in this course?

Tests and quizzes will be given throughout the chapters. A semester exam will be given the week before each semester ends. These tests will be similar to AP tests, including both multiple choice and free response questions.

Grades in this class will be:

Tests and quizzes - 50% Labs 40% Daily assignments - 10%

Hints for success in AP Chemistry

1. Do not get behind! It is very difficult to learn all of the material in the last few days before an exam. I recommend studying at least as many hours outside of class per week as you spent in class.

2. Be sure to do all of the assigned worksheets, problem sets, and homework problems in the text. Some students do not do them or only do part of them, since they usually will not be collected and graded until after I have gone over them in class.

3. Working numerous problems is the best way to learn chemistry! I almost always provide the answers to homework so you can check your answers. In addition I have the solutions book for every question in our textbook and for other AP chemistry textbooks. Ask to use them! The more problems you do, the more comfortable you will be with the problems you are asked to do on the exams.

4. Read the chapter in sections. For most students, there is too much information to absorb if they try to read the entire chapter all at once. Read one section and do all of the assigned practice problems that correspond to that section, before moving onto reading the next section in the chapter.

5. Do not become dependent upon the "big board". Many students rely on my working problems on the "big board" instead of doing the problems themselves. There is no substitution for practicing the problems. Remember, you will not have me to rely on during the exam.

6. In the last days before an exam, review the material, and test yourself. One way to test yourself is to ask a friend or relative to choose problems we have covered in class that you have the answers to and see if you can solve them without any help. If you can do all of problems covered in class without help, then you should be able to do any problem I give you on the exam.

Advanced Placement Chemistry

Dear Parent and Student:

I am very excited to have the opportunity to work with you throughout this coming year. Your signatures below will verify that you have read the course syllabus and honor code and agree to abide by these guidelines. Please feel free to contact me at any time. Email seems to be the easiest and most effective way. My email address and phone number are listed on the front of the syllabus.

Sincerely,

Alicia Barrett

Parent/Guardian Signature: _____

Parent/Guardian email address: _____

Parent/Guardian phone number: _____

Student Signature: _____

Student email address: _____