

# Advanced Placement Chemistry

## Course Description:

The goals of this AP Chemistry course are to provide college level chemistry instruction, to provide college level laboratory experiences, and to prepare students for the AP Chemistry exam such that they have the best chance of being successful.

AP Chemistry provides an orderly development of the fundamental concepts and principles of chemistry with an emphasis on inquiry and critical thinking skills including problem solving, mathematical reasoning, and experimental investigations. Topics of study include: structure of matter, states of matter, chemical reactions, and descriptive chemistry. The breadth, pace, and depth of material covered exceeds the standard high school chemistry course, as does the college-level textbook, laboratory work, and time and effort required of students. It is therefore recommended to spend at least 5 hours a week in individual study outside of the classroom. The formation of study groups is strongly encouraged. Study groups enable students to learn by both helping and being helped by others. To make the best use of time, it is strongly recommended to read assigned textbook sections before the material is discussed in class.

Laboratory is an integral component of the course and is required in order to supplement and broaden the understanding of the course concepts through hands-on application of the course concepts. Laboratory sessions are held at least one time per week, ranging from 42 minutes to several sessions extending over multiple days. Students will work in pairs to physically manipulate equipment and materials in order to make relevant observations. They will also collect and analyze data to form conclusions. The students should communicate and compare results and procedures informally to those of other students. Students must keep an individual, bound, hand-written, carbonless laboratory notebook that can be purchased from the school bookstore or online. To maximize the laboratory experience, students are expected to participate in all laboratory exercises (refer to Make up Work section that follows).

In preparation for the AP test, a minimum of two weeks is set aside for review.

## Textbook and Supplemental Resources:

Required Textbook (provided):

- Zumdahl, Steven, and Susan, Zumdahl. 2012. *Chemistry*, 8<sup>th</sup> edition, Belmont, California: Brooks/Cole .

Supplemental Resources (provided):

- Vonderbrink, Sally Ann, Ph.D. 2006. *Laboratory Experiments for Advanced Placement Chemistry*, 2<sup>nd</sup> edition, Batavia, Illinois: Flinn Scientific, Inc.
- College Board *AP Chemistry Guided Inquiry Experiments* Lab Manual
- Students will have available during specific labs a laptop and Pasco probeware/software with lab manual.

## Required Materials:

3-ring binder with pockets for storage (2-inch ring diameter or larger recommended)

Scientific calculator

Black or blue pens

#2 pencils

## Website:

All important information including syllabus, homework, labs, extra notes, and reference materials can be accessed here. To access labs and other protected files, you will need to get a password from your teacher.

[www.jpsaos.com/pittenger/apchemistry.htm](http://www.jpsaos.com/pittenger/apchemistry.htm)

## Course Policies:

### Grading

→Marking period grades will be calculated as follows:

#### **Labs/Classwork/HW 30%**

- Laboratory experiments can be found online.
- Students are expected to pre-lab each experiment **before** the designated lab day.
- Students who are present for lab but do not have a completed pre-lab, will not be permitted to participate in the lab experiment and will not earn credit for the pre-lab.
- Students will submit a carbonless copy of both their pre-lab and data, attached to their post-lab analysis.
- AP Free Response Questions (located on the website) will either be randomly collected and graded or quizzed upon. Remember it is in the students' best interest to complete all of the AP Free Response Questions so you are prepared for the exams and quizzes (announced or unannounced).
- AP Free Response Questions will be discussed during a designated recitation session before an announced assessment.
- Class activities/group activities may either be randomly collected and graded or quizzed upon.

#### **Quizzes 20%**

- Quizzes can be multiple choice or free response.
- Homework quizzes & Lab quizzes may or may not be announced.
- Chapter quizzes will be announced.

#### **Exams 50%**

- Exams will include material from multiple chapters.
- Exams will be similar to the format of the AP Exam (multiple choice with and without the use of a calculator and free response questions).
- It may be necessary to use double periods for exams.

#### *Final Exam*

- *Multiple Choice AP Practice Exam administered before the AP Exam in May*

### Make up Work

If you know that you will be absent (field trips, doctor appts., etc.) please schedule any make ups with your teacher before the day of the scheduled absence.

#### *Exams/Quizzes*

- Students who are absent must schedule a make up with their teacher at the earliest possible convenience.
- Make ups will be a different version than the original.
- Students who are absent the day before an exam/quiz are still expected to take it as scheduled.

#### *Labs*

- Students who did not participate in the laboratory experiment will be expected to pre-lab. Completion of the laboratory data tables, calculations, and post-lab analysis will be submitted with data that was collected during a make-up lab. **YOU MAY NOT USE YOUR LAB PARTNER'S DATA.**
- Students who make up a laboratory experiment will be expected to adhere to original class due date for all laboratory work.

### Student Responsibilities

- Attendance, punctuality, courtesy, and respect are expected at all times.
- Lab safety is of the utmost importance. Failure to follow safety policies will be treated very seriously.
- Keep a spare pair of sneakers and socks in your locker to have in case you wear open-toed shoes on lab day.
- Be responsible for yourself and your actions.
- Take initiative for your learning. You get out of it as much as you put into it.