Advanced Placement Chemistry 2020 Online

Start at clever.com **Daily meetings:** sandiegounified.zoom.us (or via Clever)

LMS https://sandiegounified.instructure.com/ **Daily agenda**: https://mrsq.net/index.php/chem

Quessenberry

Course Description:

The purpose of Advanced Placement Chemistry is to provide a college level course in chemistry and to prepare the student to seek credit and/or appropriate placement in college chemistry courses. Laboratory experiments and manipulation and analysis of data are performed. Emphasis is placed on depth of understanding of a topic, rather than breadth of topics. Class time consists of short lectures, question/answer sessions, inquiry packets (POGIL) and practice problems on non-lab days. One day prior to each chapter test is spent in review.

Objectives:

Students will:

- Learn the inquiry process through numerous laboratory investigations.
- Gain an understanding of the four big ideas and six science practices as articulated in the nine units in the AP Chemistry Curriculum Framework.
- Apply mathematical and scientific knowledge and skills to solve quantitative, qualitative, spatial, and analytic problems.
- Formulate strategies for the development and testing of hypotheses.
- Identify implications and consequences of drawn conclusions.
- Learn to think critically in order to solve problems.

Textbook,Laboratory Manual, and Study Guides:

Brown, Theodore L., et al, Chemistry the Central Science, 11th edition. New Jersey, Pearson Prentice Hall, 2009.

Shakashiri, Bassam and Rodney Schreiner, Workbook for General Chemistry, 3rd Edition, Madison, Wisconsin, Stipes Publishing, 2004.

Vonderbrink, Sally. Laboratory Experiments for AP Chemistry. Batavia: Flinn Scientific, 2001.

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

Laboratory Work:

Students work in small groups for each lab. They will process, manipulate, and graph data from both qualitative and quantitative observations. Inquiry is emphasized in some of the experiments that students complete. The laboratory work requires students to design, carry out, and analyze data using guided inquiry principles. For labs, students are required to understand the purpose, procedure, all data, data analysis, error analysis, results, and conclusions and submit a lab report for grading. Laboratory experiments are generally completed in one or two periods with final reports due a minimum of two days later.

Laboratory Notebook:

All completed lab reports must be included in a notebook along with a table of contents. Lab reports will include a title, the date, a purpose, the procedure outlined, preliminary questions, data tables (student developed or pre-provided), calculations and graphs, and conclusion/error questions. Each lab report will be graded individually, and the notebook is checked at the end of each semester. In the event that a lab is graded for the whole group, each student must still maintain a copy for his/her lab notebook.

Assessments:
A unit test is given for each general topic, along with smaller quizzes along the way. Tests include questions similar to the free response and multiple choice questions on the AP exam (approximately 50% of each) and are timed. Many end of unit assessments will have re-takes available to enhance learning. Generally quizzes will not have re-takes available. Students will be notified of these opportunities well in advance. Students enrolled in the course are expected to take the AP Chemistry exam in May.

Classwork and Flex time work Assignments include:
On-line College Board assignments.
Group and individual critical thinking and problem-solving.
Textbook readings – students must time manage.
Lab Write-ups and preparation.

Academic Grades will be determined using a weighted average with 65% for assessments, 10% homework/classwork and 25% labs. Points may be deducted for late assignments in the lab or classwork categories. The overall letter grade will be calculated using a modified scale with an understanding of the difficulty of the AP exam level unit tests and labs.

AP Exam Review:
The AP Chemistry Exam is **MAY 7, 2021.** Since I will not see students in class after April 9, I will hold a few night-time review sessions and I will have asynchronous review available.

Citizenship:
Students who participate, attend to class on time and do not disrupt class are Satisfactory. In order to be considered Good or Excellent, a student needs to have a positive impact on the class by actively participating, assisting others, volunteering, having stellar attendance and generally going above and beyond. Students are expected to follow the electronic learning guidelines as set out by the school.

Academic Honesty:
All students are expected to conduct themselves with the highest academic integrity. It is a disservice to everyone when a student cheats. Any student participating in the following will be considered in violation of the academic honesty policy as outlined in the student handbook:

- Cheating on tests or assignments, which includes giving answers to other students as well as taking them.
- Plagiarism – copying of any sort.
- Theft or alteration of classroom materials

Consequences for violating this policy may include a zero on the assignment, a U in citizenship for the quarter and an F/U in the course for the semester. To avoid any impression of impropriety, students will NOT be allowed to use a graphing calculator on any exam unless the RAM has been cleared.

Communication:
If I have concerns about a student's progress or behavior, I will first counsel with the student. If after talking with the student, the situation has not resolved itself I will contact parents. If the situation continues I will contact the counselor and perhaps have a conference to try and clear up the issue.

I am always available via e-mail to discuss grades, citizenship or content with parents and students at mquessenberry@sandi.net. You can also text at 858-256-5531. I have all assignments listed at **http://mrsq.net** and parents and students can check grades on Power School.

Approximate Course Outline:

Chapters in Brown Chemistry	**AP Chemistry Unit Covered**
1. Matter and Measurement	None
2. Atoms, Molecules, and Ions	Atomic Structure and Properties (1) & Molecular and Ionic Compound Structure and Properties (2)
21. Nuclear Chemistry	Atomic Structure and Properties (1) & Kinetics (5)
6,7. Electronic Structure of Atoms and Periodic Properties of the Elements	Atomic Structure and Properties (1)
3. Stoichiometry	Chemical Reactions (4)
4. Aqueous Reactions and Solution Stoichiometry	Chemical Reactions (4)
5. Thermochemistry	Thermodynamics (6)
8. Basic Concepts of Chemical Bonding	Molecular and Ionic Compound Structure and Properties (2)
9. Molecular Geometry and Bonding Theories	Molecular and Ionic Compound Structure and Properties (2)
10. Gases	Intermolecular Forces and Properties (3)
11. Intermolecular forces, Liquids and Solids	Intermolecular Forces and Properties (3)
13. Properties of Solutions	Intermolecular Forces and Properties (3)
14. Chemical Kinetics	Kinetics (5)
15. Chemical Equilibrium	Equilibrium (7)
16,17. Acid-Base Equilibria and Additional Aspects of Equilibria	Acids and Bases (8)
19. Chemical Thermodynamics	Applications of Thermodynamics (9)
20. Electrochemistry	Applications of Thermodynamics (9)
23. Metals and Metallurgy (break)	Molecular and Ionic Compound Structure and Properties (2)
AP Chemistry Exam Review	All