**Chemistry**

**Sierra Vista High School Science Department**

# Course Information

Instructor: Mrs. Self

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[www.sierravistachemistry.weebly.com](http://www.sierravistachemistry.weebly.com) (class website includes daily calendar, worksheets, activities, labs and lecture notes)

googleclassroom (a online platform which includes daily calendar, worksheets, activities, labs and lecture)

## **COURSE DESCRIPTION**

A study of chemistry is basic to all students regardless of their educational goals. This course is designed as an introductory course in macroscopic and microscopic properties of matter for the college preparatory student. Chemistry is also a lab-oriented course that will give you two semesters of lab science toward your college entry requirements. Major areas of study include:

|  |  |
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| **Instructional Segment** | **Description** |
| **1** Combustion | In this brief introductory unit, students investigate the amount of stored chemical potential energy in food. They make observations of material properties at the bulk scale that they will later explain in the atomic scale.  The themes of combustion and CO2 tie together several of the Instructional Segments. |
| **2** Heat and Energy in the Earth System | Students develop models of energy conservation within systems and the mechanisms of heat flow. They relate macroscopic heat transport to atomic scale interactions of particles, which they will apply in later units to construct models of interactions between atoms. They use evidence from Earth’s surface to infer the heat transport processes at work in the planet’s interior. |
| **3** Atoms, Elements, and Molecules | Students recognize patterns in the properties and behavior of elements, as illustrated on the periodic table. They use these patterns to develop a model of the interior structure of atoms and to predict how different atoms will interact based on their electron configurations. They use chemical equations to represent these interactions and begin to make simple stoichiometric calculations. |
| **4** Chemical Reactions | Students refine their models of chemical bonds and chemical reactions. They compare the strength of different types of bonds and attractions and develop models of how energy is stored and released in chemical reactions. |
| **5** Chemistry of Climate Change | Students develop models of energy flow in Earth’s climate. They revisit combustion reactions from IS1 to focus on emissions from fossil fuel energy sources. They apply models of the structures of molecules to explain how different molecules trap heat in the atmosphere. Students evaluate different chemical engineering solutions that can reduce the impacts of climate change. |
| **6** Dynamics of Chemical Reactions and Ocean Acidification | Students investigate the effects of fossil fuel combustion on ocean chemistry. They develop models of equilibrium in chemical reactions and design systems that can shift the equilibrium. Students conduct original research on the interaction between ocean water and shell-building organisms. |

### INSTRUCTIONAL MATERIALS

**Cover your textbook**

**Do not use any adhesive to cover**

Recommended Materials:

* Lined paper
* 3-ringed binder (2-3 inches) or spiral bound notebook (100) Your choice.
* Scientific Calculator

## **INSTRUCTIONAL METHODS**

The following methods will be used to master the Next Generation Science Standards for chemistry: laboratory and field investigations, current readings, video, discussions, lectures, Internet activities, and research projects.

## **TESTS AND EVALUATIONS**

#### **Grades**

Grades are based on the total points accumulated during the semester. The scale that will be used to determine the semester letter grade is as follows: **90% = A, 80% = B, 70% = C, 60% =D**. **Test and quizzes are 60%, lab/projects are 25%, and homework/classwork 15%**

#### **Lectures, Exams, Quizzes**

Lecture notes are extremely important since they outline the specific material that will be on your next exam. Lectures will include a variety of audiovisual material including, PowerPoint presentations, and videos. The students are responsible for obtaining lecture notes missed due to an absence. Lecture exams are given roughly every couple of weeks and could consist of multiple select and completion. Quizzes are short tests that are announced and unannounced. Quizzes are usually from lecture notes and required readings.

#### **Make-up Exams**

Students who only miss the day before an exam must take the exam upon the day they return—so be prepared! If you miss the day of an exam, quiz, or lab you will have **2 days** to make it up so please make arrangements.

#### **Final Exams**

A comprehensive final exam will be given each semester. Exam questions come from lecture, assignments, activities, projects, and lab to properly prepare for these exams—so stay organized.

#### **Laboratory**

Labs are designed to give the student a “hands on” approach to the material discussed in class. Since labs are required a great deal of space, which is a premium in this classroom, they cannot be left set up after the time designated. Therefore, labs cannot be made up and an alternative assignment will be given. Extra time and neatness as well as accuracy are very important to a successful lab grade.

***Homework***

Homework will be given on a regular basis. All due dates are in google classroom so that the students can keep track of assignments and their due dates. **Late work is not accepted**. If you have a verified absence, you have two days to make up one day absences. For example, you are absent on Monday you have until Wednesday to turn in the assignment.

#### **Extra Credit**

You will have several possibilities of earning extra credit throughout the semester. Watch for more information at a later date.

### CLASSROOM CITIZENSHIP

            It is one of the school’s professional duties to assist parents in helping students develop responsible attitudes and behavior.  This means preparing students for adult citizenship as well as preparing them for jobs and higher education.

Citizenship Guidelines for Students and Parents

The following criteria shall be used in determining a student’s citizenship mark in his/her class.

1. Respectful to peers, adults, and property
2. Comes to class prepared to learn everyday
3. Does his/her own work when independent work is required; do not cheat.
4. Does not disrupt class
5. NO FOOD OR DRINKS IN THE CLASSROOM INCLUDING WATER.

Consequences for poor choices

       1.  Warning

       2.   Final warning and parent contact

3. Detention and parent contact

       4.   Parent conference

1. Referral

## CLASSROOM POLICIES

***Attendance Policy***

Attendance is the key to your success in this class. This course moves at a very fast pace, and a lot of material can be missed in just a few days. If you know you are going to be absent, please see me the day before you go to go over the material you will be missing. This will make life easier on you. You are expected to be on time for class. You must be in your seat when the tardy bell rings! For every day you are absent you will have two days to turn in any homework missed. **If a student is on campus and leaves, it is his/her responsibility to turn in any work due that day and pick up any work missed.**

***Plagiarism***

Cheating in any form will not be tolerated. Please do your own work. You will earn a 0 for the assignment. The student handbook for Academic Dishonesty will be followed. Remember, what you learn know is the foundation for your college future.

***Respect Classroom Materials***

There are many unique and expensive items use in labs. Please be careful and considerate when handling these items. They are here for you to enjoy and learn from, not to destroy.

***Electronic devices***

Cell phones must be silenced and put away for the entire period unless you have been given permission.

1st offense: Phone/electronic device will be confiscated and returned at the end of the period,

2nd offense: Phone/electronic device will be confiscated and returned at 3:10 the same day and

parent contacted

3rd offense:office referral

What you put into class, you will get out of this class. Good Luck!

I have read the above and fully understand what is expected of me in this class.