



# 2023-2024 COURSE SYLLABUS

## Chemistry in the Earth System

### GENERAL INFORMATION:

**Instructor name:** Andrea Horgan  
Hayley O'Brien (student teacher period 4)

**Room number:** B26

**Phone number:** (916)433-5200 ext. 506126

**Email Address:** [andrea-horgan@scusd.edu](mailto:andrea-horgan@scusd.edu)

**Tutoring Hours:** Before school (7:45am -8:15 am)  
After school tutoring hours are available if arranged in advance.

**Remind code:** @jfkchem

\*Remind is not a requirement, HOWEVER, information will be sent out through Remind on a regular basis. The instructor will be available to answer any questions until 8pm every night. Parents are also invited to join Remind if you wish to receive updates or you need to contact me.

### COURSE DESCRIPTION:

Chemistry in the Earth system is a (college preparatory) two-semester course designed to meet the needs of students pursuing a major in a University or College. It integrates the concepts of Chemistry and Earth science linking cross-cutting concepts to make them more relevant to the students.

The course will meet the A-G requirements for the University of California and the California State University systems. To meet the **minimum** qualifications for these colleges, a grade of C or better must be achieved. The course is strictly aligned with the Next Generation Science Standards (NGSS) that have been adopted by our state.

The laboratory portion of the course will correlate with the instructional units rounding out the course. Labs will likely account for about 25% of the class time.



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## TEXTBOOK:

### **Pearson: Experience Chemistry in the Earth System**

Students will receive online access to the Saavas platform where they will be able to access the book, labs and handouts associated with the book. Students will also receive a physical copy of the textbook.

## CHEMISTRY TIMELINE:

36 Weeks

Intro unit - 2 weeks

- Sig figs
- Conversions
- Density
- CER
- OAIM method

Atoms - 5 weeks

- Structure -protons, neutrons, electrons
- Electron configuration
- Isotopes
- Atomic mass
- Periodic table

Molecules - 5 weeks

- Bonding - ionic/covalent/metallic
- Naming ionic/covalent
- Lewis dot structures
- Polar/nonpolar covalent

Matter - 5 weeks

- Solids/liquids/gases
- Intermolecular Forces
- Gas laws

Reactions - 5 weeks

- Moles
- Balancing equations
- Stoichiometry
- Chemical/physical changes
- Rates of reactions- chemical kinetics

Heat- 4 weeks

- Endothermic/exothermic reactions
- Calorimetry
- Enthalpy
- Heat and energy in the Earth's system

Acid/base/Equilibrium- 5 weeks

- Solutions
- Types of A/B
- Neutralization reactions
- Titrations
- Equilibrium reactions



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Weak/strong acids and bases  
Ocean acidification  
Climate change - 3 weeks  
Weather and climate  
Chemistry of the atmosphere  
Evidence of climate change  
Consequences of climate change  
Responses to climate change

## **GRADING:**

The grading scale is as follows:

Grade Percent

A 89.5-100%

B 79.5-89.4%

C 69.5-79.4%

D 59.5-69.4%

F Below 59.4%

The grades will be divided as:

10% - Classwork/Homework

60% - Tests

20% - Labs (including lab reports and lab quizzes)

10% - Quizzes

## **MAKEUP WORK:**

Makeup work will be given if the absence is excused. Students have as many days to make up the work as they were absent. For example, if a student was absent for 3 days, he/she has 3 days to make up the work missed. If you have missed school, please check the Google Classroom for any work that you have missed.

## **LATE WORK:**

Any late work that is turned in after the due date (that does not qualify as makeup work) will be deducted points.



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## CELL PHONE POLICY:

Cell phones will not be allowed during class time. Cell phones that are out during class time will be confiscated and locked in a drawer. Students may retrieve their cell phone after class. On the third confiscation, the cell phone will be sent to the office and the student will be put on a cell phone contract with the administration.

If a cell phone is out at ANY time during a test FOR ANY REASON, the student will receive a zero on the test WITHOUT A WARNING.

## DAILY AGENDA:

**Homework check:** Homework will be checked by the teacher at the beginning of the class period. Daily homework stamp sheets will be issued every quarter.

**Daily lesson/lab:** Lessons and labs will be based on the unit of study and will include lecture, group work, independent study and group labs.

## CLASS RULES AND EXPECTATIONS:

1. Do only those things which allow you and others to learn.
2. Bring materials necessary for learning.
  - a. Notebook and pen/pencil
  - b. Current packets
3. No food or drinks
  - a. Because of the nature of the course and exposure of chemicals, food and drinks will not be allowed. Students may bring a water bottle.
4. Respect teacher and classmates.
5. Arrive on time.
6. ALL LABORATORY SAFETY RULES AND PROCEDURES MUST BE FOLLOWED.
  - a. A separate list of lab rules and procedures will be handed out to each student.

To receive credit for reading this syllabus, send an email to me with a picture of your favorite animal FROM YOUR STUDENT EMAIL. Please introduce yourself and tell me anything that you want me to know.