

# General Chemistry

Mr. Kanter

## Contact Information

[Ryan.Kanter@corvallis.k12.or.us](mailto:Ryan.Kanter@corvallis.k12.or.us)

541.757.4537

[www.csd509j.net/CVHS/Kanterr](http://www.csd509j.net/CVHS/Kanterr)

## Course Description and Goals

Chemistry is the branch of science that seeks to understand the composition of substances and the changes they undergo. Fundamental to the subject itself is the search to unify our understanding of natural phenomenon with a smaller, more concise body of knowledge and relationships. This is an introductory course which focuses on fundamental concepts in chemistry. The nature of science will also be a focus throughout the course.

### First Semester

- Gas Laws
- Scientific Measurement
- Dimensional Analysis
- Atomic Structure
- The Quantum Mechanical Model
- The Periodic Table
- Chemical Names and Formulas
- Chemical Quantities (The Mole)
- Stoichiometry

### Second Semester

- Thermochemistry
- Bonding
- Reaction Rates
- Water and Aqueous Systems
- Solutions and Solubility
- Acids and Bases/Neutralization
- Redox Reactions and Electrochemistry

To help you acquire an understanding of the chemical principles listed above, you will be given a variety of contexts with which to learn proper concepts and apply them in a correct manner.

Homework is a key component to this course. If you are going to learn course material, you must work with it directly and repeatedly. You will be given numerous opportunities to apply learned concepts within both lab and project settings. During the first several days of each unit of study, homework problems and reading will be assigned daily. Students will apply unit concepts within labs and other projects. Generally, the final unit assessment will come in the form of a unit test.

### COURSE GOALS:

1. Students will develop an understanding of all of the aspects of the nature of science and the scientific process and will be able to use the principles of science to find legitimate solutions to future problems in unfamiliar contexts.
2. Students will learn how to effectively communicate and think critically within a scientific context. This will include successfully working within groups, analyzing and summarizing data, and making scientific arguments.
3. Students will learn content material to the point of being able to correctly apply content ideas to different contexts in their lives after the completion of the course.

### Instructional Activities

Students should expect to spend time exploring the content in the book and through lectures, taking notes, participating in laboratory experiments and demonstrations, working on group projects, and experiencing the nature of science through their own inquiry.

## Assessment Procedures

Students will be assessed from their participation in class lectures, labs, activities and discussions. Grades from homework, quizzes and tests will also contribute heavily to the overall course grade. A rough outline of the grading weights is given below:

Homework	(15%)
Labs and Smaller Projects	(35%)
Participation	(10 %)
Tests	(40%)

## Grading Policy

All homework assignments, labs, projects, and tests will be assigned a point value. Final grades will be based upon the percentage of the total possible points (the simple sum from all of the assignments) earned by the student using the following percentages:

90-100%=A    80-89%=B    70-79%=C    60-69%=D    below 60%=F

## Credit Denial Policy

Attendance and class participation are important parts of learning. Course credit denial is a possibility if students do not attend class. Credit denial in this course may occur when a student has accumulated five (5) unexcused absences and their grade has fallen below a 60%. Students and their parents/guardians will be informed in writing of the possibility of credit denial when a student has accumulated four (4) unexcused absences. Credit denial decisions will not be based on absences due to religious reasons, a student's disability, or an excused absence, as determined by district policy. Students who are failing a class at the time of credit denial will have an "F" entered on their transcript. No credit will be awarded for the course.

Corvallis School District Policy IKAD

## Plagiarism Policy

The Plagiarism Policy for Crescent Valley High School will be followed in this course. Please see the student planner for details of this policy.

## Tardy Policy

All students are expected to be in the room and working on the daily opener to start class. Students who are not actively working on their opener or are not making acceptable progress toward getting started will be marked tardy. Students who accumulate three tardies will be given a lunch detention.

## Attendance Policy

Absences should be kept to a minimum. It is very difficult to keep up with the content covered in this course without being present for lectures, labs, and class activities. Please avoid scheduling outside appointments during class time. All absences must be excused through the attendance office by a parent or guardian within 48 hours. After that, your absence is considered unexcused. Make-up work will **not** be accepted for unexcused absences. Make-up tests will **not** be administered to students for unexcused absences.

**Excused Absences:** Work that is late due to an excused absence will not be penalized but should be made up immediately upon return. For each day that you are absent, you will get one extra day to turn in your missed work. If you miss a test due to an excused absence, you should plan to take the

test within one day of your return. Scheduling the time of the make-up will be based on the teacher's availability.

### **Late Work Policy**

Work that is turned in within 24 hours after an assignment's due date will be accepted but graded with a 30% deduction. Students will be given no credit for work turned in after this period of time. Students with excused absences will be granted one day for each day absent to submit work. The only exception to this rule lies with homework. Homework turned in late will receive no credit. Homework must be completed in its entirety at the beginning of class to receive full credit. Extensions can be made on homework when the student notifies the teacher prior to the date that the homework is due. Tests missed due to an excused absence, must be made up within 48 hours of the student's return.

### **Personal Electronics Policy**

Personal electronic devices (i.e. cell phones, mp3 players, gaming devices, etc) will not be allowed in the classroom. Students will be asked **once** to put any electronics away. If it is out again, the device will be confiscated and held until the end of the school day.

Students are permitted to have their own laptops in class for school work unless it becomes a distraction. Students may obtain from the CVHS science department a copy of the Vernier Technology's Logger Pro 3.4.6 Lab software for use while they are enrolled in this course.

### **Classroom Behavior Expectations**

- Be courteous and respectful to all others in the room at all times.
- Be on time.
- Follow all safety procedures. **THERE ARE NO EXCEPTIONS**
- Comply with the guidelines as identified in the course syllabus.
- Students are expected to stay in the classroom during the instructional period. Extended leaves (beyond 10 minutes) will result in an unexcused absence for the block.
- I will emphasize safety procedures frequently. Safe behavior in the laboratory is a must. Students who violate safety rules will be asked to sit out the lab and take a zero for the assignment.
- Laboratory safety concerns require that all students report for class each day with *appropriate* clothing. Chemical spills and burns are ever-present hazards. Open-toed shoes and bare midriffs are two examples of inappropriate clothing for a Chemistry lab.
- No food or drink is allowed in any of the classrooms or labs in the science wing. **No headphones** are allowed to be worn in my classroom/lab at ANY time.

### **Career Related Learning Standards Addressed in this Course** *(include those that apply)*

**Personal Management** – Exhibit appropriate work ethic and behaviors in school, community, and/or workplace.

CS.PM.01 Identify tasks that need to be done and initiate action to complete the tasks.

CS.PM.02 Plan, organize, and complete projects and assigned tasks on time, meeting agreed upon standards of quality.

**Problem Solving** – Apply decision-making and problem solving techniques in school, community, and/or the workplace.

CS.PS.01 Identify problems and locate information that may lead to solutions.

**Communication** – Demonstrate effective communication skills to give and receive information in school, community, and/or workplace.

CS.CM.01 Locate, process, and convey information using traditional and technological tools.

CS.CM.04 Read technical/instructional materials for information and apply to specific tasks.

**Employment Foundations** – Demonstrate academic, technical, and organizational knowledge and skills required for successful employment.

CS.EF.01 Apply academic knowledge and technical skills in a career context.

CS.EF.07 Explain and follow health and safety practices in the work environment.

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Please detach this portion of the Course Description, sign and date it, and return it to the instructor.

### ***Class Contract- The student agrees to:***

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1. Respect the ideas, rights, and differences of all other individuals at all times and in all activities.
2. Work cooperatively and productively within small groups and participate within class activities.
3. Follow all safety procedures. **THERE ARE NO EXCEPTIONS.**
4. Turn in all assignments on the day they are due (30% penalty for 1 day late). Homework cannot be turned in late. In addition, students are to complete assigned readings in a timely manner.
5. Comply with the guidelines as identified in the course description/syllabus.
6. It is the student's responsibility (not the teacher's) to obtain the assignments that are missed due to absences. **TESTS MUST BE MADE UP WITHIN 48-HOURS OF THE STUDENT'S RETURN TO SCHOOL.** Extended absences will be handled on a case-by-case basis.
7. Try his or her best. Seek help when needed. (This one is critical – seeking help does not mean you are not trying your best!!)
8. Utilize materials on the Internet in appropriate manners. **By signing this contract, parents grant their students permission to utilize the Internet for class-related activities.**
9. Monitor his/her status in the class by regularly checking the online grade book.
10. Follow all CVHS rules and policies including those regarding cheating and plagiarizing.
11. Maintain the confidentiality of all testing materials; refrain from discussing the content of tests with other students who have not taken the test, and to return all written test materials to the teacher prior to leaving the classroom.
12. Abide by all appropriate teacher requests pertaining to the class including arriving to class on time.
13. Allow pictures to be taken of himself or herself to support classroom activities. **By signing this contract, parents grant permission for photographs and/or movies of their students to be taken to support class-related activities.**
14. Maintain a positive attitude and will strive to foster a positive attitude in others with respect to this class.

Student Name \_\_\_\_\_ (printed neatly)

I have read the Course Description and understand what is expected of me in this course.

I have read the Course Description and understand what is expected of my student in this course.

\_\_\_\_\_  
Student Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Parent/Guardian Signature

\_\_\_\_\_  
Date

## **HONOR'S OPTION:**

Students looking for additional learning opportunities can take the course for “Honors Chemistry” credit. All class content, labs, smaller projects, and tests for honor students will be identical to the materials non-honor students receive. However, in addition to these activities, honor students will be required to select and be a part of an ***authentic research project***.

Honor students, working either individually or within a small group, will identify a problem, develop a research investigation seeking a solution to the problem, prepare a formal group research paper, and present their research project and findings at the Intel Science and Engineering Fair to be held on **(Date TBD)** at LBCC. Students performing well at this initial fair will be expected to compete at the Intel Northwest Science Expo at Portland State University on Friday, April 2, 2010 at Portland State University and (should they place high enough) at the subsequent Intel International Science and Engineering Fair in San Jose, CA on May 9-14, 2010. Numerous scholarships are awarded at all three events to those students with the most outstanding research investigations.

**HONORS STUDENTS MUST ATTEND THE ENTIRE SCIENCE FAIR IN ORDER TO EARN HONORS CREDIT.** Students are also expected to continue on with their work to the higher level science fairs if they are awarded the opportunity.

Although there will be a number of class periods designated for project work throughout the year, students pursuing honors credit will be expected to complete a good portion of their projects outside of the normal class period. On designated project days, no new assignments or materials will be given. Non-honors students will be allowed to use project days to seek assistance on class content, to complete lab activities, or to study and review for tests. A good portion of the honor student's grade (perhaps as much as 20%) will stem from their project work. Students must commit to the honor's option by Friday, October 2<sup>nd</sup>.

Once committed, students will be required to continue with this option for the remainder of the year. Although the science expos are in the early spring, students can still expect to continue to work on projects to some degree through the duration of the year. More details will be provided at a meeting for parents of students interested in pursuing honors credit. The meeting will be Sept 30, 2009 at 5:30pm. (This is right before this year's open house) During the meeting we will discuss project expectations and answer any questions that you may have.