

Physical Science and Technology

Dan Bregar and Adam Kirsch

Contact Information

dan.bregar@corvallis.k12.or.us
541-757-4541

adam.kirsch@corvallis.k12.or.us
541-757-4540

Class webpage: <http://web.csd509j.net/cvhs/bregar>

Course Description

Physical Science and Technology is a class that is designed to allow students to learn to use technological tools, design and build principles, and physical science concepts. Students will use computers, electronic circuits and instruments, microcontrollers and computer programming, wood and metal working tools, recording equipment, and data collection sensors to examine the physical properties of the world around them. This class is team taught by both instructors.

Course Standards

This course is designed to address the following Next Generation Science Standards: HS-PS2-1, HS-PS2-2, HS-PS2-3, HS-PS3-3. We also address the following Common Core Math Standards: N-Q-1, N-Q-2, N-Q-3, N-VM-1, N-VM-3, A-SSE-1, A-CED-2, A-CED-3, A-CED-4, A-REI-3, A-REI-10, F-IF-4, F-IF-6, F-LE-1, F-LE-5, G-MG-1, G-MG-3, S-ID-1, S-ID-2, S-ID-3, S-ID-6, S-ID-7, S-ID-8, S-ID-9. Finally, we address the following Engineering Standards (taken from the Arizona CTE standards): 1.0, 2.0, 3.1, 3.2, 3.3, 3.4, 4.1, 4.4, 4.5, 5.1, 6.1, 6.4

Instructional Activities

Students should expect to spend time exploring the content through hands-on activities, lectures, readings, participating in laboratory experiments, working on group projects, and experiencing the nature of science through their own inquiry.

Grading and Assessment

Assessments *of learning* will be the primary indicator in calculating a student's grade, while assignments that are primarily practice *for learning* will be weighted much lower.

Tests are not the only form of an assessment of learning-- labs, speeches, projects, essays, research papers, and critical analysis are other examples of these types of assignments. Depending on the purpose, these assessed tasks may be required to be completed in-class or at home. At the same time, practice for learning might be in-class guided practice, participation, daily homework, or the preliminary parts of larger assignments. The grade for a course will be calculated by combining the two categories to create a final percentage.

Attendance, misbehaviors, and other non-academic factors shall not directly impact student grades, but they will be addressed via school discipline.

In some circumstances, students might want to request a grade of "G" (no grade given) or "I" (incomplete) at the end of a semester. All requests must be approved by the instructors and must be accompanied by a written contract of what additional work a student will do and when that work will be submitted.

In the science department, assessments will count for 80% of a student's grade while practice work will count for the remaining 20%. Grades will be rounded to the nearest whole percentage with no exceptions. Please see the course website for additional information regarding homework grades, quizzes, labs, and proficiency demonstrations.

Late work will not be accepted without penalty unless a deadline extension is obtained from the instructor BEFORE the day an assignment is due, or a student is granted an excused absence. Missing assignments and assessments will be entered as "missing" (indicated by a "Z" in Pinnacle) and will initially be treated as a zero in the gradebook. Students who miss a deadline may be given an alternative assignment to allow them to demonstrate proficiency for the standard(s) in question. The alternative make-up assignment will typically be

more involved and will require more self-direction on the part of the student. It is therefore in the student's best interest to do everything he/she can to meet all course deadlines. When completed, the score for the alternative assignment will replace the zero for the missing assignment. Student who are absent have 24 hours to complete missing work unless other arrangements are made with the instructors.

We will allow students to take or complete tests after the assigned date ONLY when it has been pre-arranged before the day of the test or it is necessary due to an excused absence on the day of the test. Students who take or complete tests after the assigned date may be subject to limitations regarding the use of notes and other materials.

Grades will be based on a student's demonstrated proficiency of the class content. Final course grades will be assigned as follows: 90-100% = A, 80-89%=B, 70-79%=C, 60-69%=D, Below 60%=F. In general, extra credit is not offered in this course. Sometimes at the end of a semester, students find themselves just shy of one of the grade cut-offs listed above. Final grades might be rounded, however in order to be eligible for this consideration, all work must have been submitted over the course of the semester (i.e. Pinnacle cannot have any "Z's"; just a single Z will prevent an overall grade of 89.99% from becoming a 90% as a final grade at the end of the semester).

Re-Assessment for Standards

All missing work (including assignments recorded with a 0% weight, class notes, and lab preparation) will be required to be completed before additional opportunities to meet standards are offered. This additional work may take the form of test questions, lab activities, or individual presentations.

Your additional work will be used to determine if you have met the course standards. It will not change your grade in the class.

Academic Integrity

Crescent Valley students are expected to submit their own work on assignments, projects, reports, and examinations. Prohibited acts of academic dishonesty include, but are not limited to:

- Giving unauthorized assistance to other students.
- Receiving unauthorized assistance from other students.
- Reproducing, reformatting, or paraphrasing the work of others as your own (plagiarism).
- Exchanging any portion of an electronic file on individual assignments and tests.
- Using or sharing prohibited study aids or other written materials on tests or assignments.
- Sharing false information or knowingly misleading another to reach a false answer or conclusion.
- Using an online translator to complete work in a World Language class.
- Inappropriately modifying work without teacher approval.

Please refer to page 23 in the Student Handbook for further details on Academic Dishonesty and its consequences.

Tardy Policy

PST will begin promptly each day; please be prepared and ready to learn at the start of each period. Detentions and other consequences may result from repeated tardies (more than 2).

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. Chronic attendance issues will result in an attendance contract. All absences must be excused through the attendance office by a parent or guardian within 48 hours. After that, your absence is considered unexcused.

Personal Electronics Policy

Your cell phone, MP3 players, iPod and all other personal electronic devices should be turned off and packed away when you are in this class. The Personal Electronics Policy for Crescent Valley High School will be followed in this course. Refer to page 24 of the student handbook for policy details. There is a phone in the classroom that you may use if you must make a call. If used in class, all of these devices are subject to confiscation by the teacher as described on page 24. Occasionally the use of a personal electronic device might be legitimate (to take a photograph, or to check the class website). However, even in these valid instances, teacher permission must be obtained *before* the device is taken out, or the device will be confiscated. This

policy is strictly enforced in this class – sorry, everyone’s safety is at risk when people are plugged in to devices rather than paying attention to the activities around them in the shop and classroom.

Materials Required for Class

- Some means of saving electronic files – a USB memory key is essential. Several of the pieces of equipment in this class will not be online and must be driven by a file on **YOUR** USB drive.
- A working email account that you check on a regular basis.
- Scientific calculator.
- Pencil or blue or black pen. A mechanical pencil with extra lead is recommended.
- **Safety glasses.** Your first pair will be provided. Should you lose or damage this first pair, a second pair may be purchased from the class instructors or the MAX for \$2). **THIS IS A MANDATORY ITEM FOR ALL WORK WITHIN THE MATERIALS LAB.** Glasses will be kept in a locked cabinet in the classroom. Instructors will provide a means of labeling the glasses with the student’s name. An old sock works well as a means of protecting glasses during storage. Glasses brought from home must be approved by the instructors prior to use.

Classroom Behavior Expectations

The Raider Way – Be Safe, Be Respectful, Be Responsible. If you behave in this manner everything should be fine. There are safety concerns that are unique to working within the Materials Lab and we will cover those in class. Students are expected to follow safety rules as stated in class. The Class Contract is located at the end of this document. Behavioral expectations are detailed there and you are asked to read them, have your parents read them and both you and they sign the contract before returning it to your instructor. The contract must be returned before you begin work in the Materials Lab.

Please see the back of this page.

STUDENTS AND PARENTS: Please read and sign the safety contract on the following page. This contract is due in class before a student will be allowed into the Materials Lab.

PST Class Safety Contract- The student agrees to:

1. Respect the ideas, rights, and differences of all other individuals at all times and in all activities.
2. Keep the class environments safe places by respecting the rights, property, and differences of others. Horseplay or harassment of others will result in disciplinary action.
3. Work cooperatively and productively within small groups and participate in class activities.
4. Notify an instructor before leaving the classroom (or other location) for any reason. If attendance is taken and you are not physically present and have not informed the instructor that you left you will be counted absent.
5. FOLLOW ALL SAFETY PROCEDURES. THERE ARE NO EXCEPTIONS. Safety glasses must be worn at all times in the Materials Lab and elsewhere when working with materials with either hand or power tools. You will be provided with a single pair of safety glasses. Should you lose or damage this first pair, you will have the opportunity to purchase your own pair for \$2.00 or you may provide your own. Students will be given instruction for safe operation of power equipment and other activities in the lab. Students not working in a safe manner will be referred for disciplinary action.
6. Refrain from the use of profanity.
7. Remain on task at all times. It will be assumed, by the instructor, that the student is making daily progress on assignments and projects. Those who cannot work in class without constant socialization or interrupting others will be referred for disciplinary action.
8. Monitor his/her status in the class by regularly checking the online grade book. This will be an essential activity. It is the student who is ultimately responsible for insuring completion of all assignments and course requirements by the end of the class. Parents are asked to check their student's progress via the online grade book. Students are to provide username and password information to parents.
9. Follow all CVHS rules and policies including those regarding cheating and plagiarizing.
10. Treat all facilities with respect and care at all times. Any student found vandalizing tools, equipment or the projects of others will be automatically dropped from the class.
11. Utilize on-line and web-based materials in appropriate manners. **By signing this contract, parents grant their students permission to utilize the Internet for class-related activities unless the instructors receive additional written notification indicating otherwise from the student's parents.**
12. Being occasionally photographed and/or videotaped for purposes of the class. **By signing this contract, parents grant their students permission to be photographed for class-related activities unless the instructors receive additional written notification indicating otherwise from the student's parents.**
13. Ask for extensions or opportunities for proficiencies as outlined above in this syllabus.
14. Abide by all appropriate teacher requests pertaining to the class including arriving to class on time.
15. Try his or her best. Seek help when needed.

Disciplinary Plan

Step 1: Written warning. Parents notified. Administration notified.

Step 2: Referral to administration for action. Parent conference before returning to class.

Step 3: Dropped from class.

NOTE: It is the teacher's responsibility to provide a safe and productive learning environment. A student may be immediately and permanently removed from the class if his/her behaviors cause the teacher to believe the safety of that student, or others, may be compromised.

Student Name _____ (printed neatly)

I have read the Course Syllabus and safety contract for PST and understand what is expected of me in this course.

I have read the Course Syllabus and safety contract for PST and understand what is expected of my student in this course.

Student Signature

Date

Parent/Guardian Signature

Date

Parents: we would appreciate it if you would write your e-mail address and phone number below so we can contact you if necessary.