

Chemistry Themed Syllabus – Williams 2016-17

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Expectations

Above and beyond anything else, I hope all of you have a good experience in chemistry and get to know and appreciate your classmates. Work hard, have fun and show you have character by doing the right thing and I'm sure you'll learn chemistry well and grades will reflect that.

What is chemistry?

Webster defines chemistry this way: "A science that deals with the composition, structure, and properties of substances and with the transformations that they undergo". Yes, we'll learn all about that, but we'll learn it in a meaningful context. Regular chemistry at Central is "Chemistry in the Community" and we'll see how chemistry applies to today's problems and problems that will affect your future. Pay attention, you'll need to know this stuff to understand the problems that you will face in your world.

Along the way you'll learn to work as a class. You'll learn about significant figures, and about a crucial resource we take for granted: water. You'll refine some copper, watch a Halloween pumpkin who ate too much candy heave and cook s'mores at Camp Stoichiometry. You'll become an informed citizen and understand the tradeoffs between nuclear energy and global warming and maybe see why this makes conflict in the Middle East hard to avoid during your lifetime. You will research and present alternate energy sources that can help with these problems and when the weather turns warm, you'll spend a day at Salt Creek and as a class give your opinion on whether the dam belongs there or not (you'll also tire of me asking about the "dam pictures").

Course Outline

Semester 1

1. Safety, measurement & sig figs – Important rules we follow all year!
2. Matter, properties, periodic table
3. Naming ionic compounds (no, you don't give them names like Lucy or Bob)
4. Balancing chemical equations (7 Oxygens on the left, so 7 on the right too)
5. Reactivity of metals and redox
6. Types of reactions
7. Stoichiometry - chemistry it like cooking...s'more anyone?
8. Copper unlimited
9. Gas properties including KMT, Toy Unit (car design)

Semester 2

1. Toy unit (batteries)
2. Petroleum – refining, viscosity, polymers
3. Petroleum – Energy with environmental issues too
4. Nuclear – Do we need this fuel source?
5. Water – Mixtures, purification
6. Water – Solubility, acids, bases, titration
7. Fish kill project
8. Salt Creek project

Required Materials

1. Pencil/pen and paper to write on
2. Scientific calculator
3. Textbook: Chemistry in The Community (available in school bookstore)

Classroom Behavior Expectations

1. Listen during instruction
2. Be positive
3. Be respectful of school property, your teacher and other students
4. Safety above all else (I like that you have stereo vision, so I may yell if you don't have your goggles on!)

Grading

Your grade is a total point system. Your grade is based on both performance and effort. Performance means you solve problems correctly and demonstrate understanding. Effort means you are providing me with evidence that you are trying hard to do your best. The homework portion of your grade comes largely from personal effort and in the case of challenging projects and non-test assignments,

Letter grades

A = 88 – 100%

B = 80 – 89%

C = 70 – 79%

D = 60 – 69%

F = 0 – 59%

Semester grading is based on the following formula

1. Quarter 1 percent 40%

2. Quarter 2 percent 40%

3. Final exam percent 20%

Other procedures & advice

Homework: Most HW assignments are worth 5 points. I look *mostly* for evidence of effort. If you're stuck on something, put something on paper to show me you tried and you'll get credit. If you put some time and thought into a problem that's hard, you'll learn so much when you find out the answer! Sometimes I will spot check answers too. Late homework is not accepted since we need to go over it right away. If you are excused absent, this will not be held against your, but it's your responsibility to catch up. Up to 2 missed or low-scored homework grades per quarter may be excluded from your grade by doing both of the following provided it's turned in within one week of the due date. Any make-ups must also be turned in prior to the end of the current quarter.

- Showing me you did your homework (late)
- Turn in an assignment consisting of two internet pages pertaining to a current study topic from this class. Include a copy of both links (URL's) and a half-page summary of what you learned from these internet resources.

Labs: Labs should be interesting and fun, but the most important thing during labs is to be safe. "Horseplay" never belongs in any lab. In chemistry lab, you will deal with dangerous chemicals that have the potential to change your life or the life of your lab partner in an instant. Wash your hands when you are done with any lab dealing with chemicals. Always wear your safety goggles when doing chemistry labs as instructed. The only time I will yell at you is when I see you doing something unsafe, like not wearing goggles.

Lab points vary according to the lab. Clean up and appropriate behavior may be part of the grade.

Clickers: Clicker points are accumulated by total points, not by percentages. There are no make-ups for clickers and clicker points are rewarded by extra credit points, usually by unit, quarter and/or semester.

Exams:

Excused absences

I want the examination process to be fair for all students. If a student misses time in which new material is covered (not merely a review day), then the student is deserving of additional time to find out what new material was covered and prepare for the exam. Please don't show up for class expecting an automatic extension on exam day. Are you sure new material was covered and you're deserving of more time?

Sometimes we have a couple of days or more of review. If you don't contact me PRIOR to class to discuss an extension, please don't be disappointed or surprised if you are not eligible for a test extension.

Cell phones

No cell phones pictures without permission. Please do not conceal cell phones on your lap or slip them in and out of your pocket. If you are frequently glancing downward, it's pretty obvious what you're not on task and it will be noted. Be aware, effort-based points, such as those in homework grades, may be lost if you are not on task. You may keep your cell phone out on the desk in plain sight unless instructed otherwise. If there is a special need for cell phone use, and you can ask me without disrupting class, I am usually happy to accommodate you.