

Chemistry I & Honors Chemistry

Mrs. Janet Williams

Description: Chemistry is a comprehensive course meaning that knowledge learned initially will be used as a foundation for future learning. Chemistry focuses on the properties of matter, the basic atomic structure of all matter, and interaction of matter.

Tennessee Educational Standards:

- Standard 1 – Atomic Structure
 - 1.1 Compare and contrast the major models of the atom
 - 1.2 Interpret the periodic table to describe an element's atomic makeup.
 - 1.3 Describe the trends found in the periodic table with respect to atomic size, ionization energy/electronegativity.
 - 1.4 Determine the Lewis electron-dot
 - 1.5 Represent an electron's location in the quantum mechanical model of an atom in terms of the shape of electron clouds, relative energies of orbitals, and the number of electrons possible in the s, p, d, and f orbitals
- Standard 2 – Matter and Energy
 - 2.1 Distinguish among elements, compounds, and mixtures.
 - 2.2 Identify properties of a solution: solute and solvent in a solid, liquid, or gaseous solution; procedure to make or determine the concentration of a solution in units of ppm, ppb, molarity, percent composition, factors that affect the rate of solution.
 - 2.3 Classify a solution a saturated, unsaturated, or supersaturated based on its composition and temperature and a solubility graph.
 - 2.4 Identify physical or chemical properties and changes of matter that are changes in matter.
 - 2.5 Compare and contrast heat and temperature changes in chemical or physical processes.
 - 2.6 Investigate similarities and differences among solids, liquids, and gases in terms of energy and particle spacing.
 - 2.7 Predict how changes in volume, temperature, and pressure affect the behavior of a gas.
- Standard 3 – Interactions of Matter
 - 3.1 Analyze ionic and covalent compounds in terms of their formation, names, chemical formulas, percent composition, and molar masses.
 - 3.2 Determine the reactants, products, and types of different chemical reactions: composition, decomposition, double replacement, single replacement, combustion.
 - 3.3 Predict the products of a chemical reaction.
 - 3.4 Balance a chemical equation to determine molar ratios
 - 3.5 Convert among the following quantities of a substance: mass, number of moles, number of particles, molar volume at STP.
 - 3.6 Identify and solve stoichiometry problems, which interconvert volume of gases at STP, moles and mass.
 - 3.7 Classify substances as acids or bases based on their formulas and how they react with litmus and phenolphthalein.
 - 3.8 Describe radioactivity through a balanced nuclear equation and through and analysis of the half-life concept.
- Embedded Standards will be interwoven into the other units.
 - Inq. 1 Select a description or scenario that reevaluates and/or extends a scientific finding.
 - Inq. 2 Analyze the components of a properly designed scientific investigation.
 - Inq. 3 Determine appropriate tools to gather precise and accurate data.
 - Inq. 4 Evaluate the accuracy and precision of data.
 - Inq. 5 Defend a conclusion based on scientific evidence.
 - Inq. 6 Determine why a conclusion is free of bias.
 - Inq. 7 Compare conclusions that offer different, but acceptable explanations for the same set of experimental data.
- Embedded Technology & Engineering
 - T/E 1 Distinguish among tools and procedures best suited to conduct a specified scientific inquiry.
 - T/E 2 Evaluate a protocol to determine the degree to which an engineering design process was successfully applied.
 - T/E 3 Evaluate the overall benefit to cost ratio of a new technology.

Prerequisites:

- 80 or above in Algebra I
- OR**
- Take and pass Physical Science

Lab Fees: \$10.00

Classroom Supplies:

- large 3-ring binder
 - pen or pencil – please note pencils are REQUIRED for quizzes and tests
 - highlighter
 - scientific calculator – please make sure the calculator you have is considered a “scientific” model. All graphing calculators are capable of scientific calculations. A graphing calculator is **not** required. Scientific calculators are not as expensive as graphing calculators. Texas Instruments calculators are often the easier brand to use.
 - Paper for notes:
 - 1 ream of copy paper – if you would like note packets
- OR**
- Notebook paper – if you would like to take all the note and not receive note packets
- OR**
- \$4.00 – if you would like note packets and would like for me to purchase the paper for you.

Grading Policy:

Practice 40%

Lab reports
Independent practice
Group practice

Assessments 60%

Quizzes 10%
Cumulative Tests 50%
(Section Tests & Unit Tests)

Make-up work – When you are unable to attend class for **proper** reasons you, are given the opportunity to make up the work you missed within **three** days of your return to school.

- Check with your fellow classmates to find out what you have missed:
- Handouts - located in the in the Absent File
- Notes – note packets will be in the absent file and use a friend’s notes to fill in what you missed.
- Daily Work - get all copies from the Absent File It is YOUR responsibility to learn the work you have missed. YOUR RESPONSIBILITY!
- Returned graded work – Absent File
- Quizzes – the section test grade will be used
- Section Test – the Unit test grade will be used
- Unit Tests - see Mrs. Williams to schedule a make-up during after-school.
- If you miss a Unit Test or a Section Test you are required to make these up during after-school. After-school is open Monday through Thursday from 3:00 – 5:00 p.m. You will need to schedule what day you are staying with me so that I can get your test to the teacher staying that afternoon.
- Lab activities cannot be made up due to safety. You will be given an alternative assignment.

It is the STUDENT’S job to come and schedule a time with me for after school make-up work.

Classroom Discipline – An attitude of mutual respect should exist in the classroom between teacher and students and between student and fellow student. Students achieving the opportunity to take chemistry should be individuals that are intelligent, self-controlled and self-motivated.

Classroom rules:

1. Adhere to the handbook.
2. Respect Mrs. Williams by staying seated and quiet during class time and by actively participating in whatever is asked.
3. Respect others' feelings, belongings, and opportunity to learn by being kind and staying involved in class.
4. Be responsible by attending class, being prepared, and being cooperative.
5. Act with maturity by refraining from profanity, rudeness, outbursts, lack of self-control, whining or complaining about complexity of subject matter.

Consequences for breaking posted classroom rules:

- A. First offense – entire class reminded of the rule
- B. Second offense – individual student/s addressed by name and given verbal warning
- C. Third offense – student/s moved to the back of the room during class time and a conference held with student privately.
- D. Fourth offense – office referral

Consequences for tardiness:

- A. First through 3rd offenses – student/s will not be allowed to disrupt the flow of class, and will therefore be given an assignment to complete in the storage room independently. The assignments missed in class will be given as homework.
- B. Fourth and any additional offenses – office referral

Consequences for horseplay during instructional time:

- A. First offense – verbal warning
- B. Second offense – student will be seated and given zero credit for assignment
- C. Third offense – office referral

Consequences for cheating:

**Cheating is considered to be any student that gets his/her answers from another student and/or any student that gives answers to another student.*

Any offense of cheating will result in an immediate **zero** on all work. There will be no opportunity for the student to make that grade back up or to do additional work to bring the grade up.

Return this page to Mrs. Williams:

- 1. We understand that it is necessary to pay attention in class, take all notes given, and turn in all assignments completed in order to do well in this class.**
- 2. We understand that in order to do well in chemistry it will require study time outside of the classroom.**
- 3. We understand that in order to do well in this class the student must be present in order to be taught.**
- 4. We understand that chemistry is required for graduation and will have a state mandated and designed End of Course Exam at the end of the class that will count 25 % of Quarter 4 average.**
- 5. We understand that the state objectives can be found on the following website http://www.state.tn.us/education/ci/sci/doc/SCI_3221.pdf, or I may request a copy by contacting Mrs. Williams at the number below.**
- 6. We understand that**
 - (1) progress reports will be given out every 3 weeks,**
 - (2) Mrs. Williams can be contacted at the school (731-645- 3226) during school hours to discuss student progress,**
 - (3) Mrs. Williams can be contacted by email (queenjanetw@yahoo.com) to discuss student progress.**

Parent/Guardian Signature _____

Student Signature _____

Dear Parent,

I am writing to welcome your child to my Honors Chemistry class this semester. I am excited to get to know and teach your student and I am expecting a very productive semester.

This semester your child will be embarking on a course that has traditionally been one of the more difficult classes of their school semester. This course combines math with science concepts in ways students have never seen, and our topics, for the most part, involve concepts that they cannot see. Chemistry is the study of matter and it can be very abstract and conceptual. I work very hard to make each student as successful as possible if they are willing to put forth the effort and time required to excel in this course. Every student will be challenged, as is the goal of an honors course, with laboratory investigation and technology being important parts of my plan to challenge and improve student learning as well as prepare them for college.

As times change the need for a quality education to prepare for postsecondary success is vital. Honors classes should challenge students to achieve higher levels of learning compared to other courses they take. Therefore, the grades made in previous courses are not an indicator of the grade your child will make in this course. Although students have taken other science courses over the years, this is the first time any of them will have taken this particular course. Many chemistry concepts are completely new to students so it is important that they are aware at the onset of the class that it will be necessary to be actively participate during class, spend time studying outside of class, and for some they may need to get a tutor to achieve the grade they would like to have. The pace is fast and students will need to be aware that they are going to struggle with concepts and they will need to be able to push through and become problem solvers. Struggling with difficult concepts is not the enemy of education – apathy is. Many students will confuse struggling with difficult concepts with unfairness. Chemistry is **not** a body of unrelated facts or symbols or even reactions that must be memorized. Chemistry has its own language along with applied math practices. Chemistry requires **NEW ATTITUDES**, new approaches and new modes of thinking. Chemistry requires you to **THINK**, not take in information, or repeat demonstrations for previous knowledge. Chemistry is difficult, but also very rewarding.

As your student is in an honors level class they have shown potential. It would be a shame to allow that potential to go to waste. It would be equally a shame to receive a grade that did not reflect learning. How fruitless to get a high mark only to find that in college your child is woefully unprepared. My hope is that your student will determine what grade they would like to achieve and then work toward that grade by

- Participating in class
- Studying their notes (reviewing online tutorials, color coding, summarizing, practicing problems, read aloud, questioning)
- Seeking additional help if needed (tutors, group studying, getting help of others in class, getting my help both DURING and AFTER class)

It is my hope that your student will remember the fulfillment of learning something that is challenging, and that they will develop skills that will help them succeed in this class and future classes.

Teaching for your child's future success,
Jan Williams