**Chemistry I**

Ms. Pickett, Room R251

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**Course Description**

What occurs at the atomic and molecular level of all matter is fascinating! Chemistry is the study of the composition, structure, and properties of substances, the transformations of these substances into other substances, and the kinds of energy changes that accompany those transformations. Central skills that lead to success in chemistry include an ability to stake a claim using evidence and a scientific justification, a solid grasp of algebra, the ability to create mental and visual models of the atoms, compounds and their interaction, and an understanding of the methods and practices of scientists. In the first semester, major concepts such as the nature and classification of matter, the structure of the atom, the location and behavior of electrons, and chemical bonding are learned. In the second semester, the student will learn how to calculate chemical quantities, the various types of chemical reactions, and the behavior of gases and solutions, including acid/base solutions. Experimentation and investigation are an integral part of this course. Chemistry I provides a foundation to the study of AP Chemistry for the high-achieving student.

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| **Quarter** | **Content** | **Textbook Chapters** |
| **1** | **Unit 1: • The Nature of Science and Intro. to Chemistry**  **• Scientific Measurements and Data Analysis**  **• Properties and Changes of Matter**  **Unit 2: • Atomic Structure and Nuclear Chemistry** | **1.1-1.4**  **3.1-3.3**  **2.1-2.4**  **4.1-4.3** |
| **2** | **• Electrons in Atoms, Electromagnetism, & Atomic Emission Spectra**  **• The Periodic Table of the Elements**  **Unit 3: • Ionic and Metallic Bonding**  **• Covalent Bonding and Molecular Structure** | **5.1-5.3**  **6.1-6.3**  **7.1-7.2, 9.1-9.2; 7.3**  **8.1-8.4, 9.3** |
| **3** | **Unit 4: •The Mole and % Composition**  **• Chemical Reactions**  **• Electrochemistry**  **• Stoichiometry** | **10.1-10.3, 9.5**  **11.1-11.2**  **21.2**  **12.1-12.2** |
| **4** | **Unit 5: • Kinetic Molecular Theory**  **• Behavior of Gases**  **• Water and Solutions**  **Unit 6: • Thermochemistry**  **• Reaction Rates and Equilibrium**  **• Acids, Bases & Salts** | **13.1-13.4**  **14.1-14.3**  **15.1 & 16.1-16.2**  **17.1-17.2**  **18.1, 18.3**  **19.1-19.4** |

\*Students interested in taking AP Chem next year should also study Ch. 15.2-15.3

**Absences and Late/Make Up Work**

Ideally, all students will attend class daily and complete all assignments by the due date for full credit. Chemistry is a subject that builds on prior knowledge, so students must make the effort to attend each class and make up the learning when absent.

* It is the student’s responsibility to find out what work has been missed when absent and to complete and submit the work. Daily work is posted on my website. It’s also a good idea to have the phone number(s) of classmate(s) who can tell you.
* For excused absences, completed make-up work must be submitted within the number of class meetings that were missed *plus* one day. For example, if a student has a three day excused absence, he/she has four school days to submit make up work. For full credit, write “absent” in the upper left-hand corner of submitted assignment(s) within the timeframe.
* For unexcused absences or skipped classes, students will receive no credit on assignments missed.
* Tests/quizzes given on the day of an absence are to be made-up on the day of return to school (during class if the class work can be missed, or at tutoring). Students who are aware of an assessment prior to being absence will take the assessment on the day it is given (even if the students missed the review).
* As a lab-based course, labs are required academic work and must be made up. Labs may be made up after school during tutoring. On occasion, it may be possible for a student to make up a lab during class. Because of the nature of a lab or student circumstances, some labs may not be able to be made up. In this event, an alternate lab assignment will be given or the lab will be excused. Under no circumstances will more than one lab be excused per quarter.
* Late class and homework assignments will be accepted for two days past the due date for 50% credit. Each assignment has a learning purpose so it is important to complete all assignments, even in the event that a student has fallen behind.
* For absences due to school events (field trips, athletic, arts or club events, testing, etc.), students are considered present in school and must submit assignments before the absence or immediately upon return to class. Students will not be recommended for field trips whose current average in chemistry is below a C or who have had excessive absences.

**BYOD (Bring Your Own Device)**

Students must strictly adhere to the use policy for each assignment when cell phones are allowed, such as conducting research, signing up for and participating using academic apps, using timer functions, or other clearly-defined academic uses. Students may not use their cell phones on assessments, including the calculator functions. Students may not read on electronic devices during Enrichment time. When allowed, cell phones must be flat on the desk or lab counter. When not in use, cell phones must be turned off and put away. Violations will result in written referrals. Further violations will result in loss of privilege in class.

**Class Expectations**

* **Come to class prepared to learn**… rested and ready, with proper materials, having studied and/or completed homework, on time, and not needing to leave the classroom (bathroom breaks are for emergencies only)
* **Be respectful**… act in ways that deserve respect, listen when others are speaking, respect others’ thoughts, opinions, person and property, be brave and share your thinking, act with maturity
* **Participate in class**… give 100% to all of your endeavors, begin your work silently as soon as you enter the classroom, do your own work and thinking, contribute to the work and learning of your group and the class
* **Take responsibility**… monitor your understanding (ask questions!), your grades and your behavior, be a thoughtful problem-solver, handle materials and equipment appropriately, clean up after yourself, your group and your class, keep your notebook organized, turn in assignments on time
* **Demonstrate academic integrity**… pursue truth in learning and practicing science, work to your greatest potential, follow directions, avoid cheating, cite sources properly, be honest with all those with whom you interact
* **Safety first!**... know the lab safety rules, equipment and procedures and follow them at all times

**Community Service Hours**

If you are interested in helping in the lab to earn community service hours, please see Ms. P. Tasks include preparing and breaking down labs, making solutions, calibrating equipment, conducting labs, preparing models, posters and other materials, organizing lab supplies and equipment, conducting research, scoring student work, and cleaning and maintaining lab spaces.

**Grades**

Grading Scale: A = 100-90, B = 89-80, C = 79-70, D = 69-60, F = 59-0. Check your grades regularly in Focus!

Notes, Class work, & Homework = 20% Labs & Projects = 30% Tests, Quizzes & Performance Assessments = 50%

**Lab Equipment Care and Breakage**

With care, we hope to maintain all of our glassware, equipment and materials for lab throughout the year. However, should a piece of glassware or equipment be broken, the responsible student(s) will be charged for the item.

**Lab Safety Rules and Contract**

Safety in the science classroom is the #1 priority for students, teachers, parents and administration. Chemistry is a hands-on laboratory class involving the use of hazardous chemicals, heat, glassware and other safety concerns. To ensure a safe science classroom, a safety contract has been developed and provided, which will need to be read and signed by both parents and students. In addition, students will study lab safety rules and the proper use of safety gear and equipment. **Proper attire (long pants, no loose clothing) and covered shoes must be worn during labs.** It is a good idea if student keep an old pair of pants and shoes in their locker so they are always prepared. Consequences for not following lab safety rules include immediate removal from the lab and may result in exclusion from future labs and/or disciplinary action.

**Materials Needed**

* 1 large or 2-3 small spiral-bound notebook(s)
* 200-300 index cards (bring half to class; keep half at home)
* Four-function or scientific calculator (graphing calculators not required)
* Black or blue ink pens, pencils, erasers
* Highlighters, at least 3 colors
* 1-2 rolls of paper towels (bring to class)
* 5th period students – a reading-level appropriate reading book of choice

**Textbook**

Each student will be issued a textbook. That book may be kept at home for use in studying and completing assignments. Students should cover their textbooks to protect them from damage. A class set of texts will be available in class for student use.

Chem I textbook: Wilbraham, A.C., Staley, D.D., Matta, M.S., & Waterman, E.L. (2012). *Chemistry Foundations Florida.* Boston: Pearson Education, Inc.

**Tutoring**

Tutoring is after school 1:45-2:30 pm on Tuesdays and at other times by appointment, except Wednesdays.