**Chemistry I Syllabus-** 2016-2017 **Instructor: Anthony Strippoli (Mr. S)**

Chemistry is the science that deals with the materials of the universe and the changes that these materials undergo. It lies at the heart of our efforts to live in harmony with the earth and to produce materials and products that greatly influence our lives. The course is designed to help students develop a better understanding of the composition, properties, and interactions of matter. A major aim of the course is to encourage and inspire you to think critically and with good judgment. Your work and learning experiences in this course will require you to raise questions, formulate and test hypotheses, gather data, analyze evidence, solve problems, write clearly, collaborate with peers, communicate effectively, and demonstrate your knowledge and skills in various ways. Ultimately, the course will help you become a more scientifically literate individual, with the skills that will help you succeed and enable you to understand and deal with issues you may encounter in life. To achieve the course goals, the instructor employs a variety of instructional methods, including extensive resources from the Internet. Guided inquiry lab-work, hands-on investigations, and cooperative team learning are all integral aspects of the program. Students are expected to have mastered the basic algebraic skills of solving equations, scientific notation, and metric system.

**REQUIRED MATERIALS**

**Reference Textbook:** *World of Chemistry* by Steven S. Zumdahl (McDougal Littell Publishing, 2011)
**Three-ring binder** with sections for class notes and labwork.
**Scientific calculator**

**GRADING SYSTEM**

The student's ability to demonstrate their understanding of chemistry will be assessed in a variety of ways. Grades are calculated using a percentage system, not total points. The categories are as follows…

**Assessments** (50%) There will be a test at the end of each unit of study. Test objectives to help you focus your studies are posted on the course website. This course will place a greater emphasis on the understanding of concepts and the development of problem solving skills as opposed to rote memorization of scientific facts. Tests will be designed to evaluate how well you understand the concepts and can apply your chemistry knowledge and problem solving ability. Some assessments may take the form of individual projects and others may involve group/team lab work.

**Lab and Class Work** (25%) You will be required to record data and to complete analysis and conclusions questions for each lab. Scientific writing and lab reports are components of the lab work grade. There will be questions about lab concepts on unit assessments. Some classwork learning tasks and activities will also be assessed in this category based on effort and degree of completion.

**Assignments and Homework** (10%) Some assignments will be collected and graded for accuracy. Most homework assignments come in the form of problem sets and are considered practice work and is not graded for accuracy. Homework may consist of assignments using web resources or handouts. Answer keys for most problem sets are posted on the course website so you can check your work. Assignments are generally "quick-checked" in class, and answers reviewed and discussed. Homework assignments are given an effort grade of 100% if the assignments are turned in on, or before the due date. Assignments turned in after the due date will receive an effort grade of 50%. Assignments not done by the test date will receive an effort grade of zero.

**Quizzes** (15%) Quizzes will be given for each unit and will be posted on line as a Google form. Quizzes must be submitted by the due date. They are to be done individually, on your own, and you may use resources to help you.

**Semester Exam**- The final exam for the term will be the exam for the last unit of study.

**Participation and Citizenship**. You are expected to participate positively in class. This means working cooperatively with other students, contributing to discussions, asking relevant questions, working on problems, following instructions, appropriately uses a smart phone, tablet, or computer for classwork, etc. A good citizen in class is one who comes to class prepared to learn and is on time, does what is expected, and behaves in an appropriate manner.

**Extra Credit**- there will be extra credit problems and/or questions on unit tests. No other extra credit opportunities are permitted. You are expected to meet the course expectations and do the work in the first place.

**WHAT IS EXPECTED OF YOU**

- Be respectful- to your peers, teachers, classroom and school.
- Be responsible for your own learning and actions- take notes in class, complete required readings and assignments, pay close attention in class, stay on-task, review and study!
- Come to Class! Your best chance of mastering the concepts requires your presence in class.
- You must use electronic devices smartphone, tablet, laptop, etc. in an appropriate manner.
- Adhere to the school's honor code and maintain the highest degree of academic integrity. See the Q & A section of the web-site for specific info about what constitutes academic dishonesty.
- Sign a laboratory safety contract, follow the rules, and behave in an appropriate manner in class and lab.

**NEED HELP?**

Mr. S is very willing to provide extra help. Please use office hours, or you may request an appointment. You are expected to visit and use Mr. S's web-site where homework, useful links and test info will be posted. http://strippolichemistry.weebly.com/

**COURSE CURRICULUM TOPICS (subject to change)**

Classification and properties of matter
Atomic structure, modern atomic theory and the periodic table.
Bonding-intra and intermolecular forces of attraction
Nomenclature (the language of chemistry) naming compounds and writing formulas.
Chemical reactions
Measurement in Chemistry- review of SI system, unit conversions, error and significant figures
Quantifying chemistry- the concept of the mole
Reaction stoichiometry
Heat and thermochemistry
Solution chemistry- quantifying solutions, molarity, solubility, colligative properties
Acids and Bases
Liquids and Gases

**Final Thoughts**

You will achieve success in your efforts to learn chemistry providing you...

- Do what is expected of you
- Have a positive attitude and set realistic goals
- Listen carefully and pay attention in class
- Become an active participant in all class activities
- Exhibit self-discipline
- Work hard and do the very best that you can!

**Studying chemistry will help you:**

1. Fine-tune your imagination. You will study structures too small to see and too numerous to count. You will also need to rely on the indirect evidence of the existence and characteristics of elements and compounds.

2. Recognize subtleties, similarities, and differences. In chemistry you will need to determine the subtle difference between mass and weight, heat and temperature, atoms and ions, molecular and ionic crystals, soaps and detergents, etc.

3. Improve mathematical and problems solving skills.

4. Prepare for higher-level science courses.

5. Use common chemicals more effectively and safely. These common chemicals include soaps, detergents, antacids, lotions, shampoos, and the extra-added ingredients in the hundreds of different items in supermarkets, drug stores, hardware stores, paint stores, etc.

6. Function safely and effectively in a cooperative laboratory setting.

7. Understand the cause of and solutions for environmental dilemmas. These include ozone depletion, global warming, toxic waste disposal, water and soil contamination, etc.

8. Build your motor skills. You will be working with a variety of chemicals, equipment and glassware that needs to be handled very carefully.

9. Develop your learning and management skills. You will need to develop a strategy to synthesize the experiences of experimentation, class discussions, reading, and research into an understanding of processes and concepts.