**Honors Chemistry**

**Course Prerequisites: Successful completion of Algebra, Biology**

1. **Introduction:**

**Honors Chemistry is designed for the highly motivated student with a strong interest in the field of science.  This course is created to provide the student with a comprehensive study of inorganic chemistry and various  key chemical principles.  Upon completion of this course, students will have a strong foundation for successful completion of college chemistry.  This course will emphasize higher order thinking skills using online activities, laboratory investigations and problem solving activities.**

**Additionally, students should be able to solve problems involving measurements, atomic structure, chemical bonding, molecular structure, chemical reactions, stoichiometry, gas laws, solutions, titrations, molarity and nuclear reactions.  Laboratory experiments provide the student with opportunities to collect and analyze data and identify unknown chemical substances from their properties via both qualitative and quantitative analysis.**

**In comparison to the general chemistry student, the honors chemistry student is expected to demonstrate his or her learning and critical thinking through the synthesis, application, and evaluation of various principles of chemistry.  Furthermore, the honors chemistry student  is expected to process this learning beyond simple rote memorization by being able to critically analyze  both laboratory and classroom chemistry assignments in a more in depth level.**

1. **General Objectives and Sequential Time frame:**

**1. Students study a variety of topics that include:**

* + 1. **Laboratory Safety(1.5 weeks) 1,2**
    2. **Matter, Energy, and Change (2.5 weeks) 2,3,4**
    3. **Scientific Measurements(2 weeks) 5,6**
    4. **Atomic Structure (2 weeks) 7,8**
    5. **Periodic Laws (4 weeks) 9, 10, 11, 12**
    6. **Chemical Formulas and Compounds (6 weeks) 13-18 end first semester**
    7. **Chemical Equations and Reactions (3 weeks) 19, 20, 21**
    8. **Stoichiometry (3 weeks) 22, 23, 24**
    9. **Physical Characteristics of Gases (2 weeks) 25, 26**
    10. **Organic and Biochemistry (4 weeks) 27-30**
    11. **Acids and Bases (2 weeks) 31, 32**
    12. **Nuclear Chemistry (2 weeks) 33, 34**
    13. **Properties of Solutions (2 weeks) 35, 36**

**Textbook used**:

Modern Chemistry. Holt Rinehart. 2009

**Grading Scale:**

25% homework,  25% labs,  25% Test,   25% quiz

**Supplies needed:**

pen/paper, notebook, spiral notebook for lab reports, Scientific calculator, flash drive