**CHEMISTRY 1**

HARDING UNIVERSITY HIGH SCHOOL Mrs. Asbill

ROOM: B149 Home number: 980.263.9574

SCHOOL PHONE: 980 343 6007 e-mail: aliciam.nolen@cms.k12.nc.us

**Office (extra help) hours**

 Monday, Tuesday & Thursday: 2:30- 4:00

 Other hours by appointment.

**INSTRUCTIONAL GOALS**

 At the end of the school year, the student will:

1. build an understanding of
* the structure and properties of matter
* the regularities in chemistry
* energy changes in chemistry
* chemical reactions
1. be able to work efficiently and safely in a chemistry lab.
2. be able to apply the scientific method and communicate scientific information through the written and spoken word.
3. be aware of scientific issues which relate to science in general and chemistry in particular.
4. produce a research brochure describing an element from the periodic table of elements.

**INSTRUCTIONAL MATERIALS**

 **Course text**

 ***Chemistry: Matter and Change***, copyright 2005 by The McGraw-Hill Companies, Inc.

 **Materials you will need.**

1. Calculator – A scientific calculator will suffice
2. Pens (blue and/or black)
3. A supply of loose leaf paper (lined and punched but not torn from a spiral binder) for assignments.
4. 3-ring binder or pocket folder to hold all papers.
5. Marble Composition notebook (2).
6. Colored pencils or skinny markers

Extra credit items: facial tissue, dry erase markers, copy paper

**GRADING**

 The final grade in this course will be computed by using percentages. The grading scale is as follows:

 100-93 = A 92-85 = B 84-77 = C 76-70 = D <70 = F

 For each quarter, work percentages will be as follows:

 Formal (Tests, Quizzes & Projects) = 70%

Informal (Lab work, Class Participation, CW & HW) = 30%

**Expectations**

* Students will follow all directions the first time that they are given.
* Students will respect others when they are speaking by listening.
* Students will raise their hand and wait to be acknowledged before speaking in class.
* Student will keep all hands, feet and objects to themselves.
* Students will use only positive language.

**Positive Consequences**

* Praise
* **ChemBucks -** students will receive ChemBucks for going above and beyond classroom expectations. Students can then redeem ChemBucks for extra credit, assignment waivers etc.
* Ramhead/Apple rewards will be given for high/most improved scorers on tests or quizzes.
* Positive parent contact

**Negative Consequences**

1. Verbal/card warnings
2. Behavioral reflection and parent contact.
3. Independent work time in another classroom and parent contact.
4. Administrative referral.

**Breakdown of Units**

1. Introductions/Measurements and Calculations – Ch 2

* Lab safety & equipment
* Scientific notation & significant figures
* SI units and conversions

2. Matter – Properties and Changes – Ch 1 & 3

* + Scientific Methods
	+ Matter, Energy and Changes

 3. Atoms – Ch 4

* Atomic Theory
* Unstable nuclei and radioactive decay
* Introduction to the mole

4. Arrangement of Electrons in Atoms – Ch 5

* Quantum theory and the atom
* Electron arrangements

5. The Periodic Law – Ch 6 & 7

* Development of the Modern Periodic Table
* Periodic Trends
* Properties of s, p & d block elements

6. Chemical Bonding and Chemical formulas – Ch 8 & 9

* Ionic bonding and nomenclature/formulas
* Oxidation numbers
* Metallic bonding and alloys
* Covalent bonding and nomenclature/formulas
* Molecular Geometry and Polarity

7. The Mole and Chemistry – Ch 11

* Mass and the Mole
* Moles of Compounds
* Percent Composition
* Empirical and Molecular Formulas

8. Chemical Reactions – Ch 10

* Reactions and Equations/Balancing Equations
* Classifying Chemical Reactions

9. Stoichiometry – Ch 11,12

* Stoichiometric calculations

10. Kinetic Theory & States of Matter – Ch 13 - 14

* Gases, Liquids and Solids – forces of attraction/phase changes
* Gas laws: Combined gas law/ideal gas law
* Gas stoichiometry

11. Solutions – Ch 15

* Mixtures & their properties
* Solution Concentration

12. Energy, Thermochemistry and Kinetics – Ch 16,17

* Heat in Chemical Reactions and Processes
* Thermochemical Equations
* Calculating Enthalpy Change
* Reaction Spontaneity

13. Chemical Equilibrium - Ch 18

* Conditions of a system at equilibrium
* Le Chatelier's Principle

14. Acids and Bases – Ch 19

* Properties of acids and bases
* Strengths of acids and bases
* pH
* Neutralization

**Revised 8/2014**