P35 M

Marta Barnett, PRINCIPAL

Date: _____ **Name:** _____

REGENTS CHEMISTRY SYLLABUS

Instructor: Mr. Tahir (utahir@manhattanhs.org)

Course Description

This is a Regents level introductory chemistry course designed to make chemistry interesting, accessible and understandable. Learning chemistry can be very rewarding because it provides explanations for real world observations. The goal of this course is to provide you with the ability to apply scientific concepts, principles and theories pertaining to the physical setting and living environment and recognize the historical development of ideas in science.

Course Content

The following is a list of units and their topics that we will cover throughout the course of this year:

I. Atomic Concepts
- Models for Atoms
- Electron Excitation
- Structure of the Atom
- Arrangement of Electrons

II. Periodic Table
- Origins of the Periodic Table
- Structure of the Periodic Table
- Trends in the Periodic Table
- Chemical Properties within Groups

III. Moles / Stoichiometry
- The Mole Concept
- Stoichiometry
- Predicting the mass of a chemical product

IV. Chemical Bonding
- Nature of Chemical bonding
- Bonds between Atoms
- Attractions between atoms and molecules
- Chemical Formulas

V. Physical Behavior of Matter
- Classifications of Matter
- Solutions
- Energy
- Phases of Matter and Phase Change
- Gas Phase
- Liquid Phase
- Solid Phase

VI. Kinetics / Equilibrium
- Kinetics
- Equilibrium
- Equilibrium in Solutions
- Equilibrium in Gaseous Systems

VII. Organic Chemistry
- Characteristics of Organic Compounds
- IUPAC and Functional Groups
- Alcohols and Organic Acids
- Other Kinds of Organic Compounds
- Reactions of Organic Compounds

VIII. Oxidation – Reduction
- Changes in Charge
- Balancing Simple Redox Reactions
- Electrochemistry
- Voltaic and Electrolytic Cells

IX. Acids, Bases and Salts
- Electrolytes
- Acid- Base Reactions
- pH and Water Solutions
- Amphoteric Substances and Buffers

X. Nuclear Chemistry
- Radioactivity
- Transmutation
- Balancing Nuclear Reactions
- Fission and Fusion
- Benefits and Hazards of Nuclear Chemistry

Classroom Policies and Procedures

Methods

- We will do this by having class discussions and presentations following a "Catalyst" for part of the class, often on PowerPoint. What I want to see is student participation and engagement
- The class also does frequent observations of chemistry phenomena, either in class or in the lab. These observations match up with what you are supposed to be learning very closely, and as such *are taken very seriously*. These labs and observations have a major impact on your grade and on your ability to take the Regents Examination. A total of (1200 minutes of lab time) are required in order to take the Regent's Examination.
- We also do in class and out of class projects and activities that you will hopefully find fun and interesting.

Materials

There are several materials that you will be given or need to acquire for the class.

- Review Book for Chemistry: The Physical Setting
- Chemistry Textbook: Holt Chemistry, Visualizing Matter (Technology Edition)
- We will be using a wide variety of different apparatus and chemicals in the lab
- We will also be using technology in the lessons, including simulations of atomic models, molecular modeling on the computer, and sketching molecules suing computer programs.

Class Expectations: This is an advanced level science class, and my expectations of you will be very high.

Preparation: you are expected to be prepared for class every time you enter. This means that you are

- Arriving on time. Go directly to your assigned seats. If you are late, you must sign the late log. Late log entries will be followed up by a parent phone call or a referral to the dean.
- Arriving with something to write on and something to write with. Again, any deviation from this will be followed up by a parent phone call or a referral to the dean.
- You must have a Science section clearly defined in your loose-leaf binder or notebook.
- All lessons must be numbered, dated, properly ordered and the aim clearly defined.
- As a Science student, you are responsible for having your notebook, two pens, two pencils and a **Scientific Calculator** in class when needed.
- Open your binder, and begin the **Do Now**.
- Food, beverages, hats, electronic devices such as walkmans, IPods, cellular phones, etc. are prohibited. Cellphone will be taken away by the dean for repeat offense in same period.

Before leaving the classroom/Lab:

- Be sure to turn in all assignments
- Clear your tables of trash/mess
- Return the books to their storage place.
- Return all other materials you used during the session.
- Pick up all your trash off the floor and dispose of it in the trash bin.

Grading Policy:

Grades will be calculated according to the following formula:

1. **Exams: 25%**
2. **Homework/Projects: 20%**
3. **Class work: 35%**
4. **Class Participation: 15%**

How to have a good participation grade:
Every day, students are supposed to earn 5 points based on:
1 point for Do Now.
2 points for getting the work done.
2 points for good behavior. (Points are deducted for misbehaviors including cellphone usage)

Homework: Homework must be put in the class "inbox' at the beginning of the period—no exceptions!

The late policy (-10% per day) applies to projects, papers, labs, and other long-term assignments. Parents will be notified about all missed work.

If you are absent on the day an assignment is due, you *must* turn it in the day after you return to school. **Please speak to me if you won't attend school due to medical/emergency reasons and I will accommodate your needs and make sure you don't fall behind. Come to SGI on Friday and I will assist you with missing/incomplete classwork/homework.**

Labs: Your labs will be completed during your scheduled lab class, but I will be grading them. If you turn in two copies of your lab, then you will get to keep your graded copy. Otherwise, I will hold your copy on file in order to verify you have enough labs to take the Regent's.

Projects: There will be at least one project or independent research paper assigned per unit. These are given several days, if not weeks, in advance of their due date. The late work policy will be **strictly** enforced.
Make sure that everything you hand in has your name, teacher's name, date, and topic in the heading. Credit will not be given for work handed in without a name.

PupilPath: Is our online grading system. It allows students' to monitor their progress throughout the school year. It is highly recommended that parents/students logon to periodically to monitor progress. Information on how to access PupilPath will be given to you during the first week of classes.

PLEASE RETURN THIS PORTION TO YOUR TEACHER

I have read the attached course outline, goals, expectations, and evaluation criteria for CHEMISTRY and have discussed these requirements and responsibilities with my parents/guardians.

In a Regent's level class, every student is expected to complete a minimum of 1200 minutes of satisfactory laboratory time in order to be admitted into the Regents Examination. Failure to complete the required 1200 minutes will result in the student being barred from taking the Regents Examination and subsequent failure. Every student must take the Regents Examination.

Student Signature_____ Date_____ Class_____

Parent/Guardian Signature_____ Date_____ Phone Number:_____