

Chemistry Course Description - 2014-2015

Course Goal: My goal for this Chemistry course is to prepare you to be successful in college-level chemistry. It is important that you have a solid, *continuing* conceptual understanding of the topics we will cover – since this is the key to being able to apply your understanding in new contexts. We will also become familiar with the mathematical models that help describe the physical world – Chemistry is an algebra-based science! Chemistry is the study of the composition of matter and the changes that matter undergoes.

Textbook: *Modern Chemistry* by Davis, Metcalfe, Williams and Castka. Unfortunately, we do not have enough books for a class set, **so you will have to bring your book to class every day.**

Required Materials: A scientific calculator (a graphing calculator is not necessary), a three-ring binder dedicated to chemistry (see **Organization** below), loose leaf paper, and pens and pencils (pencil preferable).

Teacher Availability: I am available 30 minutes before school and by arrangement because I only teach in the morning. I can be available during lunch by arrangement ONLY. If you need help with something, I will *always* be willing to offer you help and support. However, keep in mind that I will be able to more effectively help you if you give reasonable *notice*.

Class Policies and Procedures:

I follow all of our district and school policies. Please refer to your student handbooks. I also have policies and procedures that are unique to my class. A few additional policies:

- **ABSOLUTELY NO FOOD WILL BE PERMITTED IN MY CLASSROOM.** Firstly, this is a lab classroom and, secondly, there are both students and staff with allergies that you may not know about. Detentions will be written for violation of this class policy.
- You are considered tardy if you are not in the classroom before the bell rings. Consistently being tardy to class may result in a detention or office referral.

Grading – The points earned in this class are weighted as follows. All assessments will be split into one of the following six categories:

- **Notebook: 5%**.....You will be responsible for maintaining your chemistry binder and keeping it up to date with assignments and notes from class. Several times during the year, notebooks will be assessed to ensure you are keeping up with the course requirements.
- **Professionalism: 5%**.....Participation in daily activities and labs.
- **Homework: 15%**.....Homework is designed to give you practice outside of class with the material we are working on. It is expected that you will make mistakes when you are first learning the material; if you make an honest attempt at each assigned problem, you will not be penalized greatly for incorrect answers. Homework will be handed in at the beginning of the period. Once it is graded

and returned to you, you should file the assignment in your chemistry binder. Homework should be completed on time, and you should **always show your work**.

- **Labs: 15%**..... Most labs will be completed in small groups, so you will share data with your lab partners. However, YOU will be responsible for having the data written down, and completing YOUR lab write-up. All of your assessed work will be individual, you will not turn in group assignments. Under no circumstances will not having the data be an excuse for a late lab report.
- **Projects: 10%**.....There will be one project each semester.
- **Tests: 50%**.....Unit exams will be given at the end of each unit (3-4 per semester) and a cumulative final exam will be given at the end of each semester. Tests are not eligible for retakes.

Late work – It is important to not fall behind in your class work, so I have a no late work policy. Really. Turn your work in on time, please. If you have an expected and excused absence, please turn your work in prior to the absence. If you have an unexpected excused absence, you have two days to make up the work after the day you are absent.

Organization – As mentioned above, you are expected to keep a 3-ring binder that is dedicated to chemistry. You will receive many handouts in this class and they should be in order by date. I expect you to keep all of your work and returned tests, quizzes, and labs in your binder. I will give occasional binder assessments to help keep you organized. **One of your first assignments is to have this binder by Monday, September 8th, 2014.**

Lab safety – Please respect yourself and the lab equipment. The labs that we are going to do this year are not hazardous as designed. But, you can easily hurt yourself, others or damage equipment if you are not following procedures. Unsafe behavior in the lab will be taken very seriously, and could result in loss of lab privileges or expulsion from the class.

Classroom behavior – Please respect yourself and others. This includes being on task, coming to class prepared, and not talking during lectures, tests and presentations. Do NOT use your cell phone during class. Detentions will be written for excessive phone use.

Academic Honesty – You are encouraged (and expected) to work with others on your homework and lab assignments. You should do the problems/labs on your own first, then check your work with others. Copying directly from someone else’s work is considered cheating and will result in a zero for both assignments and a referral. And, of course, cheating on tests and quizzes will result in a zero and a referral.

Class Information – You can find all class information on our class website www.sciencewithrugh.weebly.com or Edmodo (details to come). If you are absent, please check the class website to find out what you missed.

Communication - If you have a question about your grade, missing work, or how an assignment was graded, please see me before school, during lunch, or after school. You may also email your concern to me and I will follow up with you as soon as possible. Please do not ask me to check your grade, or check for missing assignments right as class is beginning.

I, _____ (student name), have read and agreed to follow all policies and expectations in the MSHS school planner and in the syllabus provided by my science teacher either in hard copy or electronic form (see website).

Student Name: _____ *Date:* _____

Student signature: _____ *Student email:* _____

Guardian Name: _____ *Date:* _____

Guardian Signature: _____ ***Guardian email:* _____

** I promise I will not inundate your email with junk – this is mainly to get in touch with you regarding your student. The email addresses in the school system are often out-of-date. Only occasionally will I send out mass email updates about what is happening in class. I suggest checking my website or directly emailing me if you would like daily updates about our class or have a specific question. I appreciate your time in reading this!

Topics Covered (please note this is an *anticipated* schedule, NOT a *concrete* schedule)

1st Quarter	3rd Quarter
Matter and Change Chemistry is a Physical Science Matter and Its Properties Measurements and Calculations Scientific Method Units of Measurement Using Scientific Measurements Skills Developed: Metric systems, dimensional analysis, scientific notation, experimental design, formal laboratory reporting, library research	Physical Characteristics of Gases The Kinetic-Molecular Theory of Matter Pressure The Gas Laws Atoms: The Building Blocks of Matter The Atom The Structure of the Atom Counting Atoms Arrangement of Electrons in Atoms The Development of Electrons in Atoms The Quantum Model of the Atom Electron Configurations
2nd Quarter	4th Quarter
The Periodic Law History of the Periodic Table Electron Configuration & the Periodic Table Electron Configuration & Periodic Properties Chemical Bonding Introduction to Chemical Bonding Covalent Bonding & Molecular Compounds Ionic Bonding and Ionic Compounds Metallic Bonding Molecular Geometry Chemical Formulas and Chemical Compounds Chemical Names and Formulas Oxidation Numbers Using Chemical Formulas Determining Chemical Formulas Skills Developed: Recognition of 3-D geometries, chemical nomenclature Major Project: Element Poster	Chemical Equations & Reactions Describing Chemical Reactions Types of Chemical Reactions Activity Series of the Elements Stoichiometry Introduction to Stoichiometry Ideal Stoichiometric Calculations Limiting Reactants and Percent Yield Solutions Types of Mixtures The Solution Process Concentration of Solutions Acids & Bases Properties of Acids & Bases Bronstead-Lowry Acids & Bases Neutralization Reactions Skills Developed: Balancing chemical equations Major Project: Important Scientific Discovery Presentation