



BISHOP DWENGER HIGH SCHOOL

Honors Chemistry 2016-2017 Mrs. Fairchild

General Information

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260-496-4700 ext. 309

A. Department Outcomes

1. SWBAT ask questions and define problems.
2. SWBAT develop and use models.
3. SWBAT plan and carry out investigations.
4. SWBAT analyze and interpret data.
5. SWBAT use mathematics, information and computer technology, and computational thinking.
6. SWBAT construct explanations and design solutions.
7. SWBAT engage in argument from evidence.
8. SWBAT evaluate the ethical aspects of science, engineering and technology using a Roman Catholic lens.

B. Course Description

This course is intended for the college-bound science major who is self-motivated. It is an in-depth study of most of the major principles of chemistry, i.e., atomic theory, bonding, gas laws, periodicity, states of matter and acid-base concept. These principles are demonstrated through student experiments. One project may be required. Students must maintain a high level of self-discipline in order to be successful in this course.

C. Course Outcomes

1. SWBAT discuss the properties of matter and how matter behaves.
2. SWBAT describe the structure of an atom and interpret its relationship to the periodic table.
3. SWBAT describe how electrons affect the physical and chemical properties of atoms and molecules.
4. SWBAT illustrate the relationship between balanced chemical equations and moles to determine the quantity of reactants and products.
5. SWBAT use the Kinetic Molecular Theory and Gas Laws to describe the behavior of gases.
6. SWBAT apply the law of conservation of energy and explain the role of energy in chemical reactions.
7. SWBAT analyze the composition and characteristics of solutions; including factors such as solubility on rate, and dynamic equilibrium.
8. SWBAT identify acids and bases based on definitions, reactions, formulas, pH, and ion concentrations.

D. Course Topics

Unit 1 Chemistry: An Introduction

Unit 2 Measurements and Calculations

Unit 3 Matter

Unit 4 Chemical Foundations: Elements, Atoms, and Ions

Unit 5 Nomenclature

Unit 6 Chemical Reactions: An Introduction

Unit 7 Reactions in Aqueous Solutions

Unit 8 Chemical Composition

Unit 9 Chemical Quantities

Unit 10 Energy

Unit 11 Modern Atomic Theory

Unit 12 Chemical Bonding

Unit 13 Gases

Unit 14 Liquids and Solids

Unit 15 Solutions

Unit 16 Acids and Bases

E. Text and Required Supplies

"Introductory Chemistry" 7th ed. Zumdahl, Decoste

Scientific calculator

Goggles

F. Grading Plan

Grades are determined based on total points. Letter grades correspond to Bishop Dwenger grading scale located in the student planner.

G. Late Work/Absence Rule for Course

Late work is accepted. Students are allowed the same number of days to make up work as they were absent. i.e. If a student misses one day, he/she has one day to make up work. Tests and quizzes may be made up in the library before or after school. Work turned in after the allowed time frame will be deducted 10%. After a unit test is administered work for that chapter will not be accepted.

H. Classroom Rules of Conduct

1. Arrive to class on time.
2. Show respect for classmates, school property, and yourself.
3. Be prepared for class by bringing your textbook, calculator, pencil or pen, and paper daily.
4. No food or drink allowed in laboratory.
5. **Only** utilize electronic devices when instructed by the teacher.
6. Use headphones/earbuds only when instructed by the teacher.
7. Angle computer screen at 45 degrees when teacher is giving instructions or lecturing.
8. If the teacher closes student's computer, the teacher opens student's computer.
9. Web surfing is allowed **only** if given permission by teacher.

I. Laboratory Expectations

We will be exploring the wonders of chemistry in the laboratory setting. This requires maturity, concentration, and preparation. Some guidelines that must be followed:

1. Pre-reading of lab instructions is necessary. A pre-lab will be written by the student before any experiment is to be conducted.
2. Goggles must be worn unless otherwise specified by the teacher. If you do not wear your goggles, you will not do the experiment and will receive a zero for that lab.
3. Follow written instructions. However, sometimes these may change so listen for these changes to be announced by the teacher.

J. Classwork Etc.

Homework will be assigned 4-5 times per week. Papers must have your name at the top and be neat. Late work will be deducted 10%. All late work must be submitted no later than the date of that chapter test. No credit will be given for work submitted after the chapter test. If you have an excused absence, **you** are responsible for asking the instructor or a classmate what you have missed. You will be allowed one day for each day absent to make up your work. Once again **you** are responsible for turning in late work. There will be quizzes periodically, some will be announced and others may not. A test will be given at the end of each chapter. *Only **one** test may be made up per semester, due to an excused absence.* ***Please be advised that subsequent tests missed will be deducted one full letter grade.*** Tests and quizzes are to be made up before or after school in the library. If you have an unexcused absence, the work missed cannot be made up.

-CALCULATORS

Each student is required to have a calculator for this class. Much of this class is math related and the work will be very difficult without a calculator. **Graphing calculators may not be used during test taking due to the programmability of these calculators.**

-OTHER WORK

You will be doing a lab experiment with almost every chapter. Formal lab reports will be written periodically during the school year, approximately one per quarter. This will be discussed in more detail later. Outside readings will be assigned most chapters to supplement the text book. A brief assignment will be given with these readings. There will also be one independent project done outside of class second semester. More details later.

-CHEATING

Cheating is a violation of the 7th commandment. This action will result in a zero for that assignment, quiz or test for all parties involved.

Honors Chemistry COURSE AGREEMENT

****(Return this page to your instructor)****

This course may be more academically demanding than the courses you have encountered so far in your education. Some of you may find it much more difficult. It is not unusual for the 1st quarter to be an adjustment period to the high expectations that will be encountered. After this time most students adapt to the high standards. High expectations are to reflect the rigors of an honors course. Please note: Recommendations of studying 15-30 minutes per night in addition to the given homework assignment is highly encouraged. Reading the textbook material covered that day, along with reviewing given notes is appropriate during those 15-30 minutes each evening. *I am here to help in any way I can.* I am available most days before and after school for assistance. Please take advantage of this opportunity if you feel you are struggling.

I _____ have read and understand the above
(Student's Name)

information given in this document. I agree that noncompliance to the above information may result in lower grade or possible dismissal from the course.

(Student Signature)

(Parent Signature)