

# CHEMISTRY/SYLLABUS

Teacher: Deborah Boudoin

Room D11 high school

Chemistry Tutorial Time: 7:45-8:00 am or by appointment

## I. Course description:

\* In Chemistry, students conduct field and laboratory investigations, use scientific methods during investigations, and make informed decisions using critical thinking and scientific problem solving. Students study a variety of topics that include: characteristics of matter; energy transformations during physical and chemical changes; atomic structure; periodic table of elements; behavior of gases; bonding; nuclear fusion and nuclear fission; oxidation-reduction reactions; chemical equations; solutes; properties of solutions; acids and bases; and chemical reactions. Students will investigate how chemistry is an integral part of our daily lives.

\* Science is a way of learning about the natural world. Students should know how science has built a vast body of changing and increasing knowledge described by physical, mathematical, and conceptual models, and also should know that science may not answer all questions.

\* A system is a collection of cycles, structures, and processes that interact. Students should understand a whole in terms of its components and how these components relate to each other and to the whole. All systems have basic properties that can be described in terms of space, time, energy, and matter. Change and constancy occur in systems and can be observed and measured as patterns. These patterns help to predict what will happen next and can change over time.

\* Investigations are used to learn about the natural world. Students should understand that certain types of questions can be answered by investigations, and that methods, models, and conclusions built from these investigations change as new observations are made. Models of objects and events are tools for understanding the natural world and can show how systems work. They have limitations and based on new discoveries are constantly being modified to more closely reflect the natural world.

## II. Course objectives

\* Scientific processes. The student, for at least 40% of instructional time, conducts field and laboratory investigations using safe, environmentally appropriate, and ethical practices.

\* Scientific processes. The student uses scientific methods during field and laboratory investigations.

\* Scientific processes. The student uses critical thinking and scientific problem solving to make informed decisions.

\* Science concepts. The student knows the characteristics of matter.

\* Science concepts. The student knows that energy transformations occur during physical or chemical changes in matter

\* Science concepts. The student knows that atomic structure is determined by nuclear composition, allowable electron cloud, and subatomic particles.

\* Science concepts. The student knows the variables that influence the behavior of gases.

\* Science concepts. The student knows how atoms form bonds to acquire a stable arrangement of electrons.

\* Science concepts. The student knows the processes, effects, and significance of nuclear fission and nuclear fusion

- \* Science concepts. The student knows common oxidation-reduction reactions.
- \* Science concepts. The student knows that balanced chemical equations are used to interpret and describe the interactions of matter.
- \* Science concepts. The student knows the factors that influence the solubility of solutes in a solvent.
- \* Science concepts. The student knows relationships among the concentration, electrical conductivity, and colligative properties of a solution.
- \* Science concepts. The student knows the properties and behavior of acids and bases.
- \* Science concepts. The student knows factors involved in chemical reactions.

### III. Course timeline:



Year at a Glance  
Chemistry – HS Science

#### FIRST SEMESTER 1<sup>st</sup> six weeks

##### Unit 01: Laboratory Management

Safety

##### Unit 02: Matter

Chapter 1 Chemistry: The Science of Matter

Chapter 2 Matter is made up of Atoms

##### Unit 03: Atomic Structure and the Periodic Table

Chapter 3 Introduction to the Periodic Table

Chapter 7 Completing the Model of the Atom

Chapter 8 Periodic Properties of the Elements

2<sup>nd</sup> six weeks

##### Unit 04: Chemical Bonding

Chapter 9 Chemical Bonding

##### Unit 05: Chemical Formulas

Chapter 4 Formation of compounds

Chapter 5 Types of Compounds

3<sup>rd</sup> six weeks

##### Unit 06: Mole Concept

Chapter 12 Chemical Quantities Section: 12.1 Counting Particles of Matter

##### Unit 07: Chemical Equations and Reactions

Chapter 6 Chemical Reactions and Equations

Chapter 16 Oxidation-Reduction Reactions

#### SECOND SEMESTER

4<sup>th</sup> six weeks

##### Unit 08: Stoichiometry

Chapter 12 Chemical Quantities Section: 12.2 Using Moles

##### Unit 09: Gases

Chapter 10 The Kinetic Theory of Matter

Chapter 11 Behavior of Gases

5<sup>th</sup> six weeks

##### Unit 10: Solutions

Chapter 13 Water and Its Solutions Bonding

##### Unit 11: Acids and Bases

Chapter 14 Acids, Bases, and pH

Chapter 15 Acids and Bases React

6<sup>th</sup> six weeks

##### Unit 12: Thermochemistry

Chapter 20 Chemical Reactions and Energy

Chapter 17 Electrochemistry

**Unit 13: Nuclear Chemistry**

Chapter 21 Nuclear Chemistry

**Unit 14: Organic Chemistry**

Chapter 18 Organic Chemistry

Chapter 19 The Chemistry of Life

**IV. INSTRUCTIONAL METHODS:**

LECTURE/ GROUP DISCUSSION/ CLASS PRESENTATIONS

GUIDED DISCOVERY AND INTERACTION

LABORATORIES

INTERNET ASSIGNMENTS

PROJECTS

EDUCATIONAL TECHNOLOGIES

**V. EVALUATIONS/REQUIREMENTS/GRADES**

DAILY WORK 25%

LAB WRITEUPS 25%

EXAMS 35% (TEST DATES WILL BE ANNOUNCED 5 DAYS IN ADVANCE.)

SIX WEEKS EXAM 15%

\*MAKEUP POLICY IS LISTED ON GUIDELINES BELOW.

**VI. INSTRUCTOR INFORMATION:**

NAME: DEBORAH Boudoin

CONFERENCE PERIOD: 1<sup>st</sup> PERIOD (8:00 -8:50) OR BY APPOINTMENT

WORK PHONE: 361-758-3248 extension 1404

E-MAIL: dboudoin@apisd.org

**VII. REQUIRED TEXTS:**GLENCOE: CHEMISTRY-CONCEPTS AND APPLICATIONS**VIII. CHEMISTRY WEB PAGE and CHEMISTRY BLOG**

ALL ASSIGNMENTS, NOTES, AND LABS ARE ON MY CHEMISTRY WEB SITE. TO ACCESS, GO TO [www.apisd.org](http://www.apisd.org), CLICK ON "ARANSAS PASS HIGH SCHOOL " LISTED UNDER CAMPUSES, CLICK ON "FACULTY WEBSITES", SELECT SCIENCE, MY CHEMISTRY PAGES ARE AT <http://users.apisd.org/dboudoin>.

The schedule and activities can also be found for chemistry on my blog page by following the same path listed above but select "FACULTY BLOGS".

**IX. CHEMISTRY GUIDELINES**

1. EACH STUDENT WILL BE REQUIRED TO KEEP A FOLDER TO TURN IN AT THE END OF EACH SIX WEEKS GRADING PERIOD. A TABLE OF CONTENTS WILL BE PROVIDED TO EACH STUDENT. THESE GUIDELINES MUST ACCOMPANY EVERY FOLDER. THE FOLDER COUNTS AS A MAJOR TEST GRADE EACH SIX WEEKS.

2. FORTY PER CENT OF THIS SCIENCE CLASS WILL BE SPENT IN LABS. SAFETY IS A MAJOR CONCERN. STUDENTS AND PARENTS ARE REQUIRED TO READ, SIGN, AND RETURN A SAFETY CONTRACT. STUDENTS ARE EXPECTED TO FOLLOW ALL LAB DIRECTIONS AND PROCEDURES. FAILURE TO DO SO COULD MEAN NONPARTICIPATION IN LAB FOR EACH STUDENT INVOLVED.

3. BOOKS MUST BE COVERED. NO EXCUSES ARE ACCEPTED. STUDENTS ARE NOT TO BORROW OR LOAN BOOKS. EACH STUDENT IS RESPONSIBLE FOR BRINGING HIS/HER OWN

BOOK TO CLASS EVERY SCIENCE PERIOD WITH PAPER AND PEN OR PENCIL. STUDENTS ARE EXPECTED TO BE PREPARED.

4. SCIENCE COVERS MANY INTERESTING TOPICS FROM VARIOUS SCIENTIFIC AREAS. WE DO CLASSWORK EVERY PERIOD WE MEET. EXCESSIVE ABSENCES MEAN A LOT OF MAKEUP WORK. DAILY WORK CAN BE PICKED UP AT FRONT OF ROOM. LABS CAN BE MADEUP AT TUTORIAL OR WITH AN ALTERNATE ASSIGNMENT AS ASSIGNED BY TEACHER. ALL MISSED EXAMS ARE MADE UP AS ESSAY TESTS. THE STUDENT HAS ONE DAY PER ABSENCE TO MAKE UP ASSIGNMENTS THAT ARE ASSIGNED ON THE DAY THAT THEY WERE ABSENT. PREVIOUSLY ANNOUNCED DEADLINES ARE DUE WHEN STUDENT RETURNS. RETESTS MAY BE REQUESTED AFTER ORIGINAL EXAM IS CORRECTED. RETEST WILL BE FIVE ESSAY QUESTIONS.

5. STUDENTS WILL FOLLOW ALL RULES OUTLINED IN THE HANDBOOK.

6. STUDENTS DO NOT HAVE PERMISSION TO OPEN OR INSPECT CABINETS AND STORAGE ROOM.

7. STUDENT BEHAVIOR WILL BE RECORDED ON STUDENT DISCIPLINE CARDS THAT ARE STORED ON THE COMPUTER. STUDENTS MAY VIEW THEIR CARD BEFORE OR AFTER CLASS WITH PERMISSION FROM THE TEACHER.

8. I BELIEVE ALL MY STUDENTS CAN BEHAVE APPROPRIATELY IN MY CLASSROOM. I WILL TOLERATE NO STUDENT STOPPING ME FROM TEACHING AND/OR ANY STUDENT FROM LEARNING. MATURE BEHAVIOR IS EXPECTED FROM ALL STUDENTS IN THIS CLASS.

CONSEQUENCES:

1. WARNING
2. TEACHER CONFERENCE
3. OFFICE REFERRAL
4. SAFETY PROBLEMS WILL BE REMOVED FROM LAB.

PARENT CONFERENCES ARE WELCOMED AND WHEN THERE IS A NEED, I WILL BE CONTACTING YOU. PLEASE CALL THE OFFICE FOR AN APPOINTMENT.

WITH THE STATES EMPHASES ON TEKS AND TAKS, MASTERY OF CHEMISTRY HAS BECOME IMPORTANT. THE SKILLS AND KNOWLEDGE MASTERED IN THIS CLASS WILL AID IN IMPROVED SCIENCE TAKS SCORES. LET'S WORK TOGETHER AND ENABLE THESE STUDENTS TO BE SUCCESSFUL TODAY AND IN LIFE.

DEBORAH BOUDOIN