



**KENOSHA UNIFIED SCHOOL DISTRICT NO. 1
CURRICULUM AND INSTRUCTIONAL SERVICES**

**COURSE SYLLABUS FOR CHEMISTRY-HONORS
(431021 & 431022)**

Number of Credits: 1 **Locations:** Bradford, Harborside, Lake View, Tremper

Prerequisites: Successful completion of Biology, Algebra 1, and Geometry

Course Description

Chemistry – Honors is a laboratory-oriented course designed to develop an understanding of the basic concepts of chemistry. Topics include the nature of matter; chemical and physical changes; atomic structures; chemical bonding, chemical formulas and equations; naming compounds; stoichiometry; and the structures and properties of gases, liquids, and solids. This course is highly recommended for students considering science and engineering careers.

Course Standards

Standard A: Science Connections
Standard B: Nature of Science
Standard C: Science Inquiry
Standard D: Physical Science
Standard G: Science Applications
Standard H: Science in Social and Personal Perspectives

Explanations of standards and most essential benchmarks may be viewed at: www.kusd.edu.

Lifelong Learning Standards

- Knowledgeable person
- Effective communicator
- Quality producer
- Complex thinker
- Self-directed learner
- Contributing citizen

Lifelong learning benchmarks may be viewed at: www.kusd.edu.

Course Outline

1. Introduction to Chemistry
 - a. Lab safety and skills
 - b. Lab techniques
2. Properties of Matter
 - a. Chemical and Physical Properties
 - b. Chemical and Physical Changes
 - c. Classification of Matter
3. Measurement and Calculations
 - a. Scientific Methods
 - b. SI Measurement
 - c. Measured Units/Derived Units
 - d. Conversions

- e. Accuracy and Precision
- f. Significant figures
- g. Scientific Notation
- 4. Atoms
 - a. Atomic Theories
 - b. Atomic Structure
 - c. Atomic Masses and Isotopes
 - d. Mole and counting particles
- 5. Properties of Light
 - a. Atomic Spectrum
 - b. Bohr Model of the Atom
 - c. Quantum Model
 - d. Atomic Orbitals
 - e. Electron Configuration
- 6. Periodic Law
 - a. Periodicity and Periodic Law
 - b. Periods and groups
 - c. Atomic Trends
 - d. Valence Electrons
- 7. Chemical Bonding
 - a. Covalent bonds
 - b. Electron Dot and Lewis Structures
 - c. Ionic Bonds
 - d. Formula Units
 - e. Metallic Bonds
 - f. Molecule Geometry/VSEPR
 - g. Hybridization
 - h. Inter-Molecular Forces
- 8. Chemical Formulas and Compounds
 - a. Ions
 - b. Oxyanions
 - c. Naming Ionic Compounds
 - d. Naming Molecular Compounds
 - e. Acids and Salts
 - f. Oxidation Numbers
 - g. Chemical Formulas
 - h. Molar Mass
 - i. Empirical and Molecular Formulas
- 9. Chemical Equations and Reactions
 - a. Chemical Reactions
 - b. Chemical Equations, Balancing
 - c. Type of Chemical Equations
 - d. Activity Series
- 10. Stoichiometry
 - a. Mole Ratio
 - b. Conversion of quantities in moles

- c. Limiting reactants
 - d. Percent yield
11. Solutions and Acids/Bases
- a. Solubility
 - b. Concentration, Molarity, Dilution
 - c. Properties of acids and bases
 - d. pH, Neutralization, titrations

Board-Approved Instructional Materials

Davis, Raymond E. et al (2006). *Modern Chemistry*. Holt, Rinehart and Winston.

Resources for Parents: www.hrw.com

Methods of Assessment

Final exams should be cumulative in nature, emphasizing the most essential benchmarks for the course. Results of the final exam represent 20 percent of the final grade, but this single measure *may not* drop a student's grade by more than one letter grade. In courses that rely heavily on a major project, performance exhibition, etc., the project should be divided into stages or components and each of those should be graded separately, providing students with frequent and specific feedback.

Board-Approved Grading Scale

Excerpts taken from School Board Rule 6452

GRADING SCALE

A+=98-100 percent	B+=86-89 percent	C+=76-79 percent	D+=66-69 percent
A=93-97 percent	B=83-85 percent	C=73-75 percent	D=63-65 percent
A-=90-92 percent	B-=80-82 percent	C-=70-72 percent	D-=60-62 percent
			F=0-59 percent

MAKE-UP WORK

Students submitting work up to ten school days late without prior approval may receive up to two grades lower on the work than they would have received if the work had been submitted on time (i.e., B+ lowered to a D+). Student work submitted after ten school days without prior approval shall not be accepted for credit and shall be recorded with a score of zero.

Upon returning to school after an absence, a student has the responsibility within the number of days equal to the length of the absence or suspension to meet with the teacher to develop a plan for making up missed work, quizzes, and examinations. A truant student has the responsibility on the first day he or she returns to the course/class to meet with the teacher to develop a plan for making up missed work, quizzes, and examinations. Lower grades may not be given for late work due to excused absences, suspension, or truancy unless the work is submitted later than agreed upon deadlines.

See Rule 6452 in its entirety at: www.kusd.edu.