

Department: Science

Course Title: Advanced Chemistry 2

Course #: 524

DESCRIPTION OF COURSE:

Students will study equilibrium and solubility, chemistry of acids and bases, titrations, kinetics and thermodynamics, theoretical structure of atoms and descriptive chemistry. Reduction/Oxidation (REDOX) reactions and electrochemistry will complete the study of the electronic structure of the atom. An introduction to organic chemistry will be presented. Working individually and in small groups, students will use critical-thinking skills to analyze and interpret data and scientific information. Achievement will be demonstrated through a variety of assessments, including tests, advanced placement, college-level experiments and projects.

REQUIRED TOPICS OF STUDY	SUGGESTED INSTRUCTIONAL TIME	STANDARDS/ ASSESSMENT ANCHORS
<i>Lab Safety and Equipment</i>	<i>0.5 weeks</i>	<i>3.2.10.A, 3.2.12.B</i>
<i>Equilibrium</i>	<i>2.0 weeks</i>	<i>3.1.10.E, 3.4.12.A</i>
<i>Solubility and Solutions</i>	<i>1.5 weeks</i>	<i>3.1.10.E, 3.4.12.A</i>
<i>Acids and Bases</i>	<i>2.5 weeks</i>	<i>3.4.12.A</i>
<i>Titration and Buffers</i>	<i>1.5 weeks</i>	<i>3.4.12.A, 3.1.12.A</i>
<i>Oxidation-Reduction Reactions</i>	<i>3 weeks</i>	<i>3.4.12.A, 3.2.12.B</i>
<i>Electrochemistry</i>	<i>2 weeks</i>	<i>3.4.12.A, 3.4.10.B</i>
<i>Kinetics</i>	<i>1 week</i>	<i>3.4.12.A, 3.4.12.B</i>
<i>Thermodynamics</i>	<i>2.0 weeks</i>	<i>3.4.12.A, 3.4.12.B</i>
<i>Organic Chemistry Introduction</i>	<i>2.0 weeks</i>	<i>3.1.12.C, 3.4.12.A</i>
<i>Descriptive Chemistry</i>	<i>Independent study unit</i>	

INSTRUCTIONAL RESOURCES: Chemistry, Zumdahl, 5th edition, World of Chemistry video series, laboratory manuals, Mini- Guide to Problem Solving, Holt .