

Department: Science

Course Title: Chemistry

Course #: 521

DESCRIPTION OF COURSE:

Students will learn the basic structure of atoms, ions, and molecules and how they determine properties of matter. They will also learn chemical bonding, reactions, the periodic table, the mole concept, gas laws, writing chemical formulas, and dimensional analysis method to solve problems. Students will understand and use the scientific method of inquiry by solving problems in the laboratory. Working individually and in small groups, students will analyze and interpret data. Achievement will be demonstrated through tests, quizzes, laboratory investigations, homework, and projects.

REQUIRED TOPICS OF STUDY	SUGGESTED INSTRUCTIONAL TIME	STANDARDS/ ASSESSMENT ANCHORS
<i>Safety / Introduction to Chemistry</i>	<i>1.5-2 weeks</i>	<i>3.7.10.A&B</i>
<i>Matter and Change</i>	<i>1.5-2 weeks</i>	<i>3.2.10.A&B, 3.2.12.B, 3.3.10.C, 3.7.10.A, 3.9.10.A / S11.A.1.1, S11.A.1.1.4, S11.A.3.3, S11.A.3.3.3, S11.C.1.1, S11.C.1.1.2, S11.C.2.1, S11.C.2.1.2</i>
<i>Scientific Measurement</i>	<i>1.5-2 weeks</i>	<i>3.3.12.A, 3.6.10.B, 3.6.12.B, 3.8.12.D / S11.A.1.1, S11.A.1.1.5, S11.A.3.1, S11.A.3.1.1</i>
<i>Atomic Structure</i>	<i>1.5-2 weeks</i>	<i>3.2.12.A, 3.3.10.A, 3.7.10.C / S11.A.1.1, S11.A.1.1.1, S11.A.1.1.4, S11.A.3.2, S11.A.3.2.2, S11.A.3.3, S11.A.3.3.2, S11.C.1.1, S11.C.1.1.1</i>
<i>The Periodic Table</i>	<i>1.5-2 weeks</i>	<i>3.2.10.A, 3.2.12.A, 3.3.10.A, 3.8.10.C / S11.A.3.2, S11.A.3.2.3, S11.A.3.3, S11.A.3.3.1, S11.C.1.1, S11.C.1.1.4</i>
<i>Ionic, Metallic and Covalent Bonding</i>	<i>1.5-2 weeks</i>	<i>3.9.10.C, 3.2.10.A, 3.2.12.B, 3.8.12.B / S11.C.1.1, S11.C.1.1.3</i>
<i>Chemical Names and Formulas</i>	<i>1.5-2 weeks</i>	<i>3.2.10.A, 3.2.12.A / S11.A.3.3, S11.A.3.3.1, S11.C.1.1, S11.C.1.1.3</i>
<i>Chemical Quantities</i>	<i>1.5-2 weeks</i>	<i>3.8.10.B / S11.A.1.1, S11.A.1.1.5, S11.A.3.2, S11.A.3.2.3</i>
<i>Chemical Reactions</i>	<i>1.5-2 weeks</i>	<i>3.2.12.A, 3.3.10.C / S11.A.1.1, S11.A.1.1.5, S11.A.1.3, S11.A.1.3.2</i>
<i>Stoichiometry</i>	<i>1.5-2 weeks</i>	<i>3.9.12.C / S11.A.1.3, S11.A.1.3.1, S11.A.1.3.2</i>
<i>Gas Laws</i>	<i>1-1.5 weeks</i>	<i>3.3.10.A, 3.6.10.D / S11.A.1.1, S11.A.1.1.1, S11.A.1.1.4, S11.A.1.3, S11.A.1.3.1, S11.A.3.1, S11.A.3.1.2, S11.A.3.2, S11.A.3.2.1, S11.C.1.1, S11.C.1.1.5</i>

INSTRUCTIONAL RESOURCES:

Chemistry, 2005 Edition, Prentice Hall, Lab manuals, World of Chemistry Video Series