



## Chemistry Syllabus 2020-2021

**Instructor: Orlando Montalvo Room: 405**

**Phone: 580-5300 ext. 1435**

**Conference Period: 5th Block**

**Email: see website**

**Tutoring: Tues & Thursday 4:15pm-5:00pm**

**Course Description:** This is a 1st year general chemistry course and will include the topics of matter, atoms and the periodic table, chemical formulas and compounds, chemical bonding, chemical equations and reactions, stoichiometry, gases, solutions, and acids and bases.

**Course Information:** The course is an algebra-based Chemistry and use of math is required. The student must have pencils or pens, a scientific calculator, (a TI-30 is more than adequate), and a 3-subject notebook. Occasionally, the teacher will provide all lab elements; therefore, not all labs will be formally written up.

**Course Outline:** Instructional days will include checking/reviewing assignments, quizzes, writing assignments, lecture/explanation, lab activities and individual practice/questions/feedback.

**Textbook and Resources:** Sarquis and Sarquis Modern Chemistry, teacher-made, Holt and LTF Labs, science/technology-based videos and documentaries, internet, scientific periodicals, newspapers, and other relevant media.

**Instructional Procedures and Support:** The teacher will be available for tutoring in the morning. It is the student's responsibility to ask for help when needed and for making the required transportation arrangements. Retesting will be available in accordance with SISD High School Grading Policies.

**Classroom Management Procedures:** District Policy Will Be Enforced.

### **Classroom Expectations:**

As per district policy, major exams/assignments/lab write-ups will account for 60% of the student's grade. Lab questions, quizzes, and home/class work will account for the remaining 40%. All students will be given 2 additional days to make up a major assignment if late (with a progressive grade penalty of 15 points per day).



### Statement for Academic Dishonesty

Academic integrity is fundamental to the activities and principles of our school. No student shall cheat or copy the work of another. Plagiarism, the use of another person's original ideas or writing as one's own without giving credit to the true author, will be considered cheating, and the student will be subject to academic discipline that may include loss of credit for the work in question.

### 2020 Pre-AP Chemistry Year-At-a-Glance

REPORTING PERIOD	DAYS OF INSTRUCTION	UNIT	LESSONS	CCRS
1 <sup>st</sup>	2 days	Unit 1: Lab Safety and Management	<p><b><u>Lesson 1:</u> Safety in the Chemistry Laboratory</b></p> <p><b><u>Lesson 2:</u> Safety Rules and Procedures</b></p>	<p><b>Nature of Science:</b> C2, C3, D3 <b>Foundation</b></p> <p><b>Skills: Scientific Application of Communication:</b> B2</p>
1 <sup>st</sup>	3 days	Unit 2: Measurement and Calculations (Ch. 2)	<p><b><u>Lesson 1:</u> Scientific Method and Reporting</b></p> <p><b><u>Lesson 2:</u> Units of Measurement</b></p> <p><b><u>Lesson 3:</u> Using Measurements/ Dimensional Analysis</b></p>	<p><b>Nature of Science:</b> B1 <b>Foundation</b></p> <p><b>Skills: Scientific Application of Mathematics</b> A1, A2, A3, A4, A5, A6, A7, B1</p>



2nd	5 days	Unit 3: Matter (Ch. 1) and States of Matter (Ch. 10)	<p><b>Lesson 1:</b> Chemistry is a Physical Science</p> <p><b>Lesson 2:</b> Matter and Its Properties</p> <p><b>Lesson 3:</b> States of Matter</p>	Science, tech, and society: A1 C1 C2 Cross-disciplinary Themes: A2 Chemistry A1, A2, I1 I5 I6
2nd	5 days	Unit 4: Atoms and the Periodic Table of Elements (Ch. 3, 4, 5)	<p><b>Lesson 1:</b> The Atomic Model: Philosophy to Theory</p> <p><b>Lesson 2:</b> Structure of the Atom</p> <p><b>Lesson 3:</b> Counting Atoms (Moles, Avogadro's Number)</p> <p><b>Lesson 4:</b> Electron Configurations</p> <p><b>Lesson 5:</b> History of The Periodic Table</p> <p><b>Lesson 6:</b> Periodic Properties/Trends</p>	Cross-disciplinary Themes: A1 Chemistry: B1 C1 C2
2nd	10 days	Unit 6: Chemical Formulas and Compounds (Ch. 7)	<p><b>Lesson 1:</b> Chemical Names and Formulas</p> <p><del>Lesson 2: Oxidation Numbers</del></p> <p><b>Lesson 3:</b> Molecular Formulas</p> <p><b>Lesson 4:</b> Ionic Formulas</p>	Chemistry F1 F2
3rd	5 days	Unit 5: Chemical Bonding (Ch. 6)	<p><b>Lesson 1:</b> Introduction to Chemical Bonds</p> <p><b>Lesson 2:</b> Covalent Bonding</p>	Chemistry D1



			<p><b><u>Lesson 3:</u> Ionic Bonding</b></p> <p><b><u>Lesson 4:</u> Metallic Bonding</b></p> <p><b><u>Lesson 5:</u> Molecular Geometry</b></p>	
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REPORTING PERIOD	DAYS OF INSTRUCTION	UNIT	LESSONS	CCRS
4th	5 days	Unit 7: Chemical Equations and Reactions (Ch. 8 and 19)	<p><b><u>Lesson 1:</u> Describing Reactions</b></p> <p><b><u>Lesson 2:</u> Types of Reactions</b></p> <p><b><u>Lesson 3:</u> Activity Series of the Elements and Solubility Rules</b></p> <p><b><u>Lesson 4:</u> Oxidation-Reduction Reactions</b></p>	Chemistry E1
4 <sup>th</sup>	10 days	Unit 8: Stoichiometry (Ch. 9)	<p><b><u>Lesson 1:</u> Introduction and Moles</b></p> <p><b><u>Lesson 2:</u> Ideal Stoichiometric Calculations: Mole to Mole</b></p> <p><b><u>Lesson 3:</u> Ideal Stoichiometric Calculations: Moles to Mass</b></p> <p><b><u>Lesson 4:</u> Ideal Stoichiometric Calculations: Mass to Mass</b></p> <p><b><u>Lesson 5:</u> Limiting Reagents and Percent Yield</b></p>	Chemistry H1 H2



5th	5 days	Unit 9: Gases (Ch. 11)	<p><b><u>Lesson 1:</u> Kinetic Molecular Theory/Boyles and Charle's Law</b></p> <p><b><u>Lesson 2:</u> Ideal Gas Law, Gay Lussac's Law, Combined Gas Law</b></p> <p><b><u>Lesson 3:</u> Avogadro's Law, Gas Stoichiometry, Dalton's Law of Partial Pressure</b></p> <p><i>Lesson 4: Grahams Law of Effusion and Diffusion</i></p>	
6th	5 days	Unit 10: Solutions (Ch. 12, 13)	<p><b><u>Lesson 1:</u> Types of Mixtures</b></p> <p><b><u>Lesson 2:</u> The Solution Process</b></p> <p><b><u>Lesson 3:</u> Concentration of Solutions</b></p> <p><b><u>Lesson 4:</u> Compounds in Aqueous Solutions</b></p> <p><b><u>Lesson 5:</u> Colligative Properties of Solutions</b></p>	
6th	5 days	Unit 11: Acids and Bases (Ch. 14, 15)	<p><b><u>Lesson 1:</u> Properties of Acids and Bases</b></p> <p><b><u>Lesson 2:</u> Acid-Base Theories</b></p> <p><b><u>Lesson 3:</u> Acid-Base Reactions</b></p> <p><b><u>Lesson 4:</u> The Concept of pH</b></p> <p><b><u>Lesson 5:</u> Determining pH and Titration</b></p>	