**Textbook:** CHEMISTRY IN FOCUS, a Molecular View of Our World, 4th edition, Nivaldo tro

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| **Chapter Topics** | **Key Concept(s)** |
| **1: Molecular Reasons** | To understand why science is important and to learn about matter, mixtures, substances and the way that materials combine |
| **2: The Chemist’s Toolbox** | to learn about measurement in science and the role that it plays in the evaluation of data |
| **3: Atoms and Elements** | to learn about atoms and elements and how the periodic table is arranged to help understand trends among the elements |
| **4: Molecules, Compounds, and Chemical Reactions** | to understand the systematic nature of naming ionic and molecular compounds and the importance of formula mass |
| **5: Chemical Bonding** | To learn about the shapes of molecules and the importance of shape in understanding how molecules work |
| **6: Organic Chemistry** | to gain a brief understand of organic chemistry, the chemistry of carbon, and how several of the important functional groups within organic chemistry are important in our lives |
| **7: Light and Color** | To understand the relationship between electromagnetic spectrum, light, energy and how they all relate each other |
| **8: Nuclear Chemistry** | To learn fundamentals regarding nuclear chemistry including, nuclear energy, nuclear decay, and nuclear power |
| **9: Energy for Today** | to look at the relationship between energy production and the impact it has on our society including pollution and availability as well as global warming |
| **10: Energy for Tomorrow: Solar and Other Renewable Energy Sources** | To look at alternate energy sources (relative to fossil fuels) and focus on the positive and negative of each alternate source |
| **11: The Air Around Us** | To understand the air around us including pollution, ozone depletion |
| **12: The Liquids and Solids Around Us: Especially Water** | To understand the importance of the water that is so prevalent on Earth as well as water pollution, hard water, and water availability |
| **13: Acids and Bases: The Molecules Responsible for Sour and Bitter** | To understand the difference between acids and bases and to look at how some common acids and bases are used around the house |
| **14: Oxidation and Reduction** | To understand the concept of oxidation reduction and how it applies to fuel cells and batteries |
| **15: The Chemistry of Household Products** | To understand how common household products work |
| **16: Biochemistry and Biotechnology** | To understand biochemistry (carbohydrates, proteins, nucleic acids) and their relationship to each other |
| **17: Drugs and Medicine: Healing, Helping, and Hurting** | A quick survey of drugs and their interaction with our bodies looking at both legal and illegal drugs |
| **18: The Chemistry of Food** | The chemistry of food. What we eat, how it is processed, how it is prepared, vitamins, minerals, and their interrelationship |

**Unit 1 (ch 1-5) \* Unit 2 (ch 6-9) \* Unit 3 (ch 10-14) \* Unit 4 (15-18)**