Chemistry I - Mrs. Bauck, PHUHS
Unit 5: Compounds - Chapters 6, 7

State Standards (*** = Chem 1H only)

Topic 1: Bonding
SC.912.P.8.6 Distinguish between bonding forces holding compounds together and other attractive forces, including hydrogen bonding and van der Waals forces.
SC.912.P.8.7 (AA) Interpret formula representations of molecules and compounds in terms of composition and structure.
*** SC.912.P.8.12 Describe the properties of the carbon atom that make the diversity of carbon compounds possible.

Topic 2: Naming
SC.912.P.8.7 see above
*** SC.912.P.8.13 Identify selected functional groups and relate how they contribute to properties of carbon compounds.

Topic 3: Formula Writing
SC.912.P.8.7 see above

4.0	Extensions/Applications	Students will be able to: ☐ Name and write the formulas for compounds using polyatomic ions not assigned in class. ☐ Name and write the formula for acids. ☐ Create Lewis structures for polyatomic ions. ☐ Design a lab to identify an ionic or covalent compound. ☐ Identify specific lab chemicals as ionic or covalent compounds.
3.0	Learning Goal (Derived from State Standard)	Students will be able to: (CHAPTER 6) ☐ Determine the formula for binary and tertiary/ternary ionic compounds ("BI," "TI"). ☐ Name ionic compounds when given the chemical formula. ☐ Discuss the arrangements of ions in crystals. ☐ Explain the electron sea-model of metallic bonding and relate it to the properties of metals. ☐ Name and write formulas for hydrates. (CHAPTER 7) ☐ Name and write the chemical formulas for binary molecular compounds ("BM"). ☐ Explain the properties and differences between ionic and covalent bonding. ☐ Predict the type of bond in a binary compound based on the position of its elements on the periodic table ☐ Predict bonding polarity based on electronegativity differences. ☐ Determine Lewis structures containing single or multiple bonds using VSEPR theory (four electron pairs).

2.0	Required Skills or Background Knowledge to accomplish Learning Goal	Students will be able to: ☐ Use the periodic table to identify metals and nonmetals ☐ Define valence electrons and can determine the number of valence electrons from an element's placement in the periodic table. ☐ Determine the charge of an ion based on its placement in periodic table. ☐ Identify selected polyatomic ion formulas and name them, and vice versa. ☐ Explain the trend in electronegativity on the periodic table. ☐ Explain electron configurations and how they relate to valence electrons.
1.0	With help from the teacher, student has partial success with the goal	With help from a teacher, students will be able to: ☐ Achieve partial success with 2.0 and/or 3.0.
0.0	Even with help, the student has no success with the goal	☐ Even with help, student is unable to understand or complete any of the skills in scales 1.0 through 4.0.