

# Exam 1 Study Guide

November 16, 2022

This is a checklist based on the lecture and textbook materials. It is not expected to be an all encompassing study guide but rather, provides a guideline for your studies.

## Chapter 7: Electron Structure of the Atom

- Electromagnetic radiation and energy of a photon ( $E_{\text{photon}} = \frac{hc}{\lambda}$ )
- Atomic spectra and continuous spectra
- ROYGBV (700 nm to 400 nm) and corresponding energy
- Electron configurations
- Periodic properties e.g. Ionization energy, electronegativity, and atomic radius

## Chapter 8: Chemical Bonding

- Electronegativity determining polarity
- Drawing Lewis structures
- Resonance structures
- VESPR Theory - determining the geometry
- Molecular polarity

## Chapter 9: Gaseous State

- Units for pressure (Torr, mm Hg, Psi, atm)
- Boyle's Law
- Charles' Law
- Avogadro's hypothesis