**Chemistry 240, Introduction to Inorganic Chemistry, is focused on structure and bonding of compounds across the Periodic Table. Students with knowledge from general chemistry courses are thoroughly prepared for this course. The checklist below includes several concepts from general chemistry that you should be comfortable exercising. You don’t have to be an expert, but these should not be new for you.**

**The student should be able to:**

* Determine electron counts for neutral atoms and ions; exercising the concepts of Hund’s Rule, the Pauli Exclusion Principle, and the Aufbau Principle
* Know your quantum numbers (n, 𝓁, m𝓁, ms)
* Relate atomic and ionic radii, ionization energy, electron affinity, and electronegativity to the periodicity of the elements and compare two or more elements qualitatively
* Describe the difference between a covalent and ionic bond
* Construct and Interpret Lewis Dot Structures of compounds and ions
  + Know the molecular geometries up through AX6 as determined by VSEPR
  + Determine the hybridization (sp3, sp2, sp…) of elements
  + Calculate formal charges of elements
  + Calculate oxidation numbers of elements
  + Determine whether a compound is polar based on its 3D structure and, if present, the direction of that polarization
  + Recognize resonance structures of a single compound and their relationship to one another