## CHEMISTRY 213: EXPERIMENT LIST

| Lab #  | Lab Name   | Date(s)                    |
|--------|--|----------------------------|
| Lab 1  | Gas Chromatography-Mass Spectrometry   | Jan 23                     |
| Lab 2  | Isotopic Substitution in IR Spectroscopy   | Jan 30                     |
| Lab 3  | Identification of Isomers in a Ruthenium Compound  | Feb 6                      |
| Lab 4  | Complex Ion Composition by Job's Method  | Feb 13                     |
| Lab 5  | Crystal Structures of Solid-state Compounds  | Feb 20                     |
| Lab 6  | X-ray Powder Diffraction<br>Synthesis<br>X-ray   | 2 weeks<br>Feb 27<br>Mar 6 |
| Lab 7  | Computational Applications to VSEPR  | Mar 20                     |
| Lab 8  | Computational Applications to Molecular Orbitals   | Mar 27                     |
| Lab 9  | Synthesis, Characterization and Reactivity of CuBH <sub>4</sub><br>Synthesis<br>Characterization                                   | 2 Weeks<br>Apr 3<br>Apr 10 |
| Lab 10 | Lewis Acids and Bases  | Apr 17                     |
| Lab 11 | MCl <sub>2</sub> Compounds of 1,1'-bis(diphenylphosphino)ferrocene (dppf)<br>Synthesis<br>Magnetic Properties and Electrochemistry | 2 weeks<br>Apr 24<br>May 1 |
|        | Final  | May 1                      |

During the first week, there will be a brief check-in.

During the final week course evaluations will be done.