Topics to study in preparation for the CHEM 1021L Final Exam

1. Nomenclature, including complex ions

2. Predicting solubilities of substances using solubility rules

3. Writing (and combining) net ionic equations for
    a. precipitation reactions
    b. dissociation reactions
    c. complexation reactions
    d. displacement reactions
    (also see Le Chatelier's Principle homework, Question 3, and Group 3/4 Unknown homework Questions 1 and 2)

4. Distinguishing two solutions (see Group 3 Known Homework, question 1)

5. Separating one ion from a group of ions (see Groups 1 and 4 Known Homework)

6. Using LeChatelier's Principle to predict shifts in equilibrium and the accompanying observations (see LCP Homework)

7. Using a given set of procedural steps and expected observations, construct a flowchart (see group 4 prelab)

8. Using a given discussion section for one of the analysis groups, be able to interpret a set of observations by
    a. correctly completing a data sheet
    b. determining presence and absence of ions
    c. writing rationales for present and absent ions

9. Acid-base titrations
    a. writing balanced equations for acid-base neutralization reactions
    b. determining the volume of titrant necessary to reach the equivalence point
    c. sketching and properly labeling titration curves
    d. drawing Lewis structures for acids and bases and being able to recognize conjugate pairs

10. Sketching the set-up of a voltaic cell based on a given spontaneous reaction and being able to properly determine
    a. the electrode metals and the ions in solution
    b. the anode and the cathode
    c. the direction of electron flow
    d. the equations for reactions occurring at each electrode
    e. the value of E^{o}_{cell}

11. There will be 5 multiple choice questions covering any aspect of the course including safety, proper lab procedures, glossary terms, etc.