Guide to the Final. Spring 2015.

Exam is at 9:15 and 11:45 in the main testing room on the ground floor.

Questions 1 to 7 . Kinetics. Includes knowing the differences among first, second and zero order kinetics and the appropriate graphs.

8-14 are equilibrium, chapter 15. Includes predicting direction of reaction shifts. Very similar to series of problems on the Aug. 2014 exam. Includes determination of K from ΔG∘ .

15. Determination of ΔH from entropy and free energy values.

16. Effect of variables on the value of K.

17. Strengths of acid-base conjugates.

18-21. pH questions, chapter 16.

22. Buffer pH

23 - 25 Ksp

27 to 30 - factors that influence entropy

31 - 32. Factors determining cell potential, E.

34. Relationship of Keq to thermodynamic factors.

35 to 40. Analysis of a chemical cell.

Problems: I. Balancing a redox in acidic media

II. Analyzing a chemical cell.

III. Using the Nernst equation to find E for a non-standard cell.

IV. Free energy and equilibrium constant.

V. Finding thermodynamic functions for a given reaction using reference material provided. (same material as on August test)

VI. Using Faraday's Law to predict quantity in an electrolysis.