

## COURSE OUTLINE

Date    Subject

Introduction to aquatic chemistry

Chemical thermodynamics (laws, enthalpy, entropy and free energy) (Morel and Hering: Chap. 2)

Chemical thermodynamics (chemical potential, temperature, pressure effects activity coefficients) (Morel and Hering: Chap. 2)

Chemical kinetics (conceptual/empirical rate laws) (Morel and Hering: Chap. 3)

Chemical kinetics (more rate laws and LFERs) (Morel and Hering: Chap. 3)

### **Midterm Exam**

Introduction to Tableaux Acid/base chemistry: Use of the Tableau and other methods for equilibria calculations (Morel and Hering: Chap. 1)

Acid/Base Chemistry: pCpH diagrams and Mineql (Morel and Hering: Chap. 4)

Alkalinity concepts (Morel and Hering: Chap. 5)

### **Midterm Exam**

Precipitation-coordination reactions for inorganic complexes (Morel and Hering: Chap. 6)

Precipitation-coordination reactions for organic complexes (Morel and Hering: Chap. 6)

Oxidation/Reduction reactions (Nernst Equations, pC-pe & pe-pH diagrams) (Morel and Hering: Chap. 7)

Hydrologic applications of aqueous geochemistry

Nomenclature, structure, and physicochemical properties of organic compounds

Air/water exchange, solubility, partitioning, and sorption

Reactors and Modeling Concepts

### **Final Exam and Project Due**

### **Additional Information:**

1. Academic honesty / dishonesty matters will be treated in accordance with the Academic honesty / dishonesty statement as printed in the UNLV Undergraduate Catalog.
2. If you have a documented disability that may require assistance, you will need to contact the Disability Resource Center for coordination of your academic accommodations. Students may contact Student Support Services in Room 137 in the Reynold's Student Services Complex, or call the office at 895-0866 (TDD 895-0652).
3. It shall be the responsibility of the student to notify the instructor no later than the last day of late registration of his or her intention to participate in religious holidays which do not fall on State holidays or periods of class recess. This policy shall not apply in the event that administering the test or examination at an alternative time would impose an undue hardship on the instructor or the University, which could not reasonably have been avoided.
4. The University of Nevada, Las Vegas, does not discriminate on the basis of race, color, creed, religion, national or ethnic origin, gender, age, sexual orientation, disability or veteran status.
5. Students are welcome to use the UNLV Writing Center free of charge. Consultants can assist students at all stages of the writing process, from generating ideas to developing and polishing later drafts. Students may make 30-minute appointments by calling the Center at 895-3908, or by dropping by FDH 240.