

CHEMISTRY 3100

FALL SEMESTER 2005

TEXT: "Chemistry 3100 Notes," (Parts 1-3 and 4-8) Ernst (required)
"Inorganic Chemistry," Housecroft and Sharpe (recommended)

CLASS: M W F: 8:05 - 9:25 PM, ROOM 140 JTB

INSTRUCTOR: Dr. Richard D. Ernst, OFFICE: HEB 2166, Consultation hours –
generally open, but also by appointment (1-8639; ernst@chem.utah.edu)

FINAL EXAM: Wednesday, December 14, 8:00 - 10:00 AM, ROOM 140 JTB

RECOMMENDED REFERENCES:

*F. Cotton and G. Wilkinson, "Advanced Inorganic Chemistry"

*F. Cotton, G. Wilkinson, and P.L. Gaus, "Basic Inorganic Chemistry"

*F. Cotton, "Chemical Applications of Group Theory"

*R. Drago, "Physical Methods in Inorganic Chemistry"

N.N. Greenwood, "Chemistry of the Elements"

*J. Huheey, "Inorganic Chemistry: Principles of Structure and Reactivity"

*W. Jolly, "The Principles of Inorganic Chemistry"

W. Jolly, "The Synthesis and Characterization of Inorganic Compounds"

*K. Purcell and J. Kotz, "Inorganic Chemistry"

D.F. Shriver, "Inorganic Chemistry"

C.E. Housecroft and A.G. Sharpe, "Inorganic Chemistry"

*2 hour loan period

PROBABLE ORDER OF TOPICS:

General Bonding (1, 4, 5), Hydrogen (6, 8, 9), Alkali Metals (10), Alkaline Earths (11),
GRP 3 (12), GRP 4 (13), GRP 5 (14), GRP 6 (15), Halogens and Noble Gas
Compounds (16, 17), Coordination Chemistry (21, 22, 25), Group Theory (3), Boron
Chemistry (12), Crystal Field Theory (19, 20), Metal Carbonyls (23), Organometallic
Chemistry (23, 26).

It is strongly suggested that students review the basics of atomic orbitals (Appendix 3), electrochemistry (half-cell reactions, etc.), chirality, thermodynamics (ΔG , ΔH , ΔS , K), rules for assigning oxidation states (Appendix 19), and the basics of aqueous transition metal ion chemistry (Appendix 20) in order to better comprehend lecture materials. In addition, it would be beneficial to look over the appropriate chapters in either of the recommended texts, prior to coverage in class, which should help put the material in better perspective.

WITHDRAWAL: Last day for (easy) withdrawal is Friday, October 21, 2005

MISSED EXAMS:

No make-up exams will be given and all exams will be counted. In the event of an unavoidable problem a written excuse with documentation (doctor's letter, obituary announcement, etc.) is necessary to avoid an exam grade of 0. If at all possible, notification must be made prior to the time of the exam, and as early as possible in the event of an arguable excuse (traveling, etc.). Exam dates will be announced in class about one week prior to their dates. Students are expected to be aware of these and any other announcements made in class. Any incident of academic dishonesty could result in a grade of E.

EXAMINATIONS:

NO PROGRAMMABLE CALCULATORS MAY BE BROUGHT TO ANY EXAM - a grade of 0 will be given in such cases. An inexpensive, simple calculator (including logs) must either be purchased or borrowed (roommate, etc.). Any requests for regrading must be made within one week of the time exams are returned in class. Any exam problems must show the work involved in all steps of the solution for credit to be given. Exams not picked up within the two week period following final exam week are subject to disposal.

GRADING:

In addition to three (3) Midterms (100 points each) and a Final (200 points), 100 points will be based on discussion section performance. Note that supplemental (as opposed to explanatory) material provided in parentheses is only included for those interested in such topics.

Equal Opportunity:

The University of Utah seeks to provide equal access to its programs, services and activities for people with disabilities. If you will need accommodations in the class, reasonable prior notice needs to be given to the Center for Disability Services, 162 Olpin Union Building, 581-5020 (V/TDD). CDS will work with you and the instructor to make arrangements for accommodations.

All written information in this course can be made available in alternative format with prior notification to the Center for Disability Services.