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Required Text: Chapters in **INORGANIC CHEMISTRY**, by Miessler & Tarr, Prentice Hall, New Jersey, 3rd Edition, 2004, and Study Guide/Solution Manual to accompany the textbook.

Recommended Additional Text: **ADVANCED INORGANIC CHEMISTRY**, by Cotton & Wilkinson, John Wiley & Sons, Inc., New York, 6th Edition, 1998.

CLASSES ARE MET EVERY MWF IN RM 201 FARADAY WEST FROM 10:00-10:50 AM

Jan. 12 - Jan. 26 **Part 1: Foundations (Concepts in Chemical Bonding and Stereochemistry; Chapters 1-5)**

Special emphasis on Molecular Orbital Theory, Molecular Symmetry and the Symmetry Groups.

January 19: No Classes (Martin Luther King's Birthday)

Jan. 28 – Feb. 11 **Part 2: Advanced Topics-1 (Introduction to Ligands and Complexes; Chapters 6, 8-10)**

Ligand Substitution Processes with emphasis on Square-Planar Substitution and Octahedral Substitution Reactions in Inorganic Chemistry.

February 13: (EXAM I)

Feb. 16 – March 06 **Part 3: Advanced Topics-2 (Fundamental Concepts: Transition Metal Complexes, Chapt. 11 & 12)**

Special emphasis on Crystal-Field and Ligand-Field Theories, Electronic States and Spectra.

March 7-15: SPRING BREAK

March 16- April 10 **Part 4: Advanced Topics-3 (Organometallics, Chapters 13 & 14)**

Synthesis, Structures, Bonding, and Reactivity of Organometallic Compounds including Carboranes and Metallacarboranes, and their Applications in Catalysis.

April 08: (EXAM II)

April 10 – April 29 **Part 5: Students Presentation of Assigned Chapters in the Book**

Each presentation will be graded by other graduate students in the class and by the Instructor independently. The students' grading will be monitored to ensure that there is no discrepancy of grading between the students and the instructor by more than 10% (A penalty of 10 points each will be made if it happens!). Lecture Presentations can either be in PowerPoint, Chalkboard or Transparency media.

FINAL EXAM: MONDAY, MAY 4, 2009, 10:00 – 11:50 AM

**GRADING: EXAM I (100PTS) EXAM II (100 PTS) FINAL (200PTS) PRESENTATION (100PTS)
TOTAL: 500 POINTS**

Grading Scale: A > 90% (450 pts.), B > 80% (400 pts.), C > 70% (350 pts.), D > 60% (300 pts.), F < 60%

Any student who may need an accommodation due to a disability, please make an appointment to see me during my office hours, or when convenient. A letter from Disability Support Services authorizing your accommodations is usually needed before accommodations can be granted.