## OBJECTIVE
Provide a graduate-level introduction to advanced inorganic chemistry, focused on molecular orbital theory and reactivity.

### LECTURER
Leslie Murray (CLB 412D, 352.392.0564)

### OFFICE HOURS
M 10:30-11:30 AM and R 9-10 AM (CLB 414)

### LECTURE
MWF 9:35AM – 10:25AM (CLB 414)

### TEXTBOOK

### RESOURCES
Bowser, J. R., *Inorganic Chemistry*
Cotton, F. A., *Chemical Applications of Group Theory*
Crabtree, R. H., *The Organometallic Chemistry of the Transition Metals*
Greenwood, N. N. and Earnshaw, A. *Chemistry of the Elements 2nd Ed.*

### GRADING
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<tr>
<td>Problem Sets</td>
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<td>Exam: Mid-Term #1</td>
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<td>Exam: Mid-Term #2</td>
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Information on current UF grading policies can be found at: https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx

### PROBLEM SETS
Distributed weekly in class on Friday, due in class on the following Monday. The three (3) lowest grades on problem sets will be discarded.

### EXAMS
Exams #1 and #2 will be take-home open-notes exams with a one week time-limit. Should a student be unable to take either exam, alternate arrangements can be made on a case by case basis.

### HONESTY POLICY
All students admitted to the University of Florida have signed a statement of academic honesty committing themselves to be honest in all academic work and understanding that failure to comply with this commitment will result in disciplinary action. This statement is a reminder to uphold your obligation as a UF student and to be honest in all work submitted and exams taken in this course and all others.

### ACCOMMODATION FOR STUDENTS WITH DISABILITIES
Students requesting classroom accommodation must first register with the Dean of Students Office. That office will provide the student with documentation that he/she must provide to the course instructor when requesting accommodation.
CHM 6620: Advanced Inorganic Chemistry I
Fall 2010

I Review
The Elements & Atomic Structure (1 & 2)
Ionic Bonding, Solids (7.1, 7.2, & 7.5)
Introduction to Transition Metal Chemistry & Electrochemistry (9)
Crystal Field Theory (10.1 & 10.2)

II Molecular Orbital Theory and Group Theory
Bonding in Diatomics (5.2 & 5.3)
Group Theory (4)
Bonding in Polyatomics (5.4)
Hückel Theory
Ligand-Field Theory (10.3 – 10.7)

III Inorganic Reactions
Acids and Bases (6)
Mechanisms of Inorganic Reactions (12)
Isolobal Analogy (15)
Organometallic Chemistry (13 & 14)

IV Vibrational Spectroscopy and Electronic Transitions
Vibrational Modes
Electronic Spectra (11)
Inorganic Photochemistry