CHEMISTRY 580-002
SYMMETRY IN CHEMISTRY
Fall 2006

Instructor    Dr. Dong Yang
Office: CP-09; telephone: 257-4622; e-mail: dyang0@pop.uky.edu
Office Hours: TR 1:30-3:00 P.M.

Text    Cotton, F. A., Chemical Applications of Group Theory

Molecular Model   1006 Research Inorganic Chemistry D-Set
(Optional)   http://www.maruzenusa.com/hgs/

Class Hours    TR 11:00 A.M.-12:15 P.M., CP-103

Course Content (tentative list)

Chapter 1    Symmetry Elements, Operations, and Point Groups
Chapter 2    Representations of Groups
Chapter 3    Direct Products
Chapter 4    Symmetry-Adapted Linear Combinations and Projection Operators
Chapter 5    Symmetry and Chemical Bonding in Organic systems
Chapter 6    Symmetry and Bonding in Inorganic and Organometallic Compounds
Chapter 7    Transition Metal Compounds and Ligand Field Theory
Chapter 8    Vibrational Spectroscopy

Homework

Problem sets will be assigned for each chapter. Your solutions will be collected during
the lecture one week from the day of distribution and will not be accepted late. You are
expected to make a serious attempt at every assigned homework problem before
consulting with your peers and to show the details of any calculations or explanations.
Correct answers without details receive no credit. Answer keys will be placed on reserve
in the Chemistry-Physics library after you receive your graded problems.
Examinations
Two 2-hour midterm examinations will be held in early October and November. The final examination is scheduled on Tuesday, December 12, 2006 at 10:30 A.M.

Grading
Homework 20%
Midterms (2 @25%) 50%
Final Exam 30%

Tentative plans for final grade assignments

<table>
<thead>
<tr>
<th>Final Average</th>
<th>Course Grade</th>
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<tbody>
<tr>
<td>90 – 100 %</td>
<td>A</td>
</tr>
<tr>
<td>80 – 89</td>
<td>B</td>
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<td>70 - 79</td>
<td>C</td>
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<td>60 - 69</td>
<td>D</td>
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<tr>
<td>Below 60</td>
<td>E</td>
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Our accreditation association and policy of the Graduate School require different assignments and grading criteria for undergraduate and graduate students in 400G and 500-level courses. For that reason, undergraduate students enrolled in this class will receive additional 5% for the homework assignments and examinations.

Attendance
Students are expected to attend all classes.

Academic Dishonesty
The minimum penalty for a first offense is zero on the assignment or examination.