Brooklyn College
Advanced Inorganic Chemistry (Chem 710G, Masters students) – Spring, 2010

Professor Roberto Sanchez-Delgado
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email: Rsdelgado@brooklyn.cuny.edu
Office hours: Tuesday and Thursday 4:30 pm to 6pm

Textbook: (Available at Brooklyn College Bookstore)

Solutions Manual for Inorganic Chemistry (Miessler & Tarr)
Inorganic/organic molecular models

Other recommended books:


Molecular Symmetry and Group Theory by Alan Vincent

Grading:  GRADES WILL NOT BE NO CURVED
The final grade will be determined as follows:

<table>
<thead>
<tr>
<th></th>
<th>Test 1 Units 1-2</th>
<th>Test 2 Unit 3</th>
<th>Test 3 Units 4-5</th>
<th>Test 4 Unit 6</th>
<th>Test 5 Unit 7</th>
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<tbody>
<tr>
<td>Date</td>
<td>Feb. 16</td>
<td>March 11</td>
<td>April 13</td>
<td>May 4</td>
<td>May 20</td>
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No make-up tests will be given except in cases of documented legitimate reasons for absence.

Take-home assignments will be distributed immediately after tests 2 and 4. You will have two weeks to hand them in. Specific guidelines will be provided in each case

Reading

• This is an advanced course and students are expected to do a lot of work on their own. Lectures may not cover all the contents in the textbook as listed below, but you will be expected to know the assigned material. Questions and discussion during the lectures are strongly encouraged. If you have difficulties, make use of office hours, I am here to help you succeed.

• A lot of material will be covered in this course. Keep up-to-date. Read appropriate sections in the textbook before the lectures.
Content and tentative schedule

Unit 1 (weeks 1-2)
*Chapters 1-3.* Introduction to inorganic chemistry. Revision of basic concepts of atomic theory. Chapters 2-2-4 to 3. Periodic trends. Simple bonding theories.

Unit 2 (weeks 3-4)
*Chapter 4.* Symmetry and group theory. Applications to vibrational spectroscopy.

Unit 3 (weeks 5-6)

Unit 4 (week 7)
*Chapter 6.* Acid-base and donor-acceptor properties.

Unit 5 (weeks 8-9)
*Chapter 7.* The crystalline solid state.

Unit 6 (weeks 10-12)

Unit 7 (weeks 13-14)
*Chapter 13, 14, 16.* Elements of organometallic chemistry and catalysis, bioinorganic and environmental chemistry.