

Inorganic Chemistry

Instructor: Christopher M. Bender

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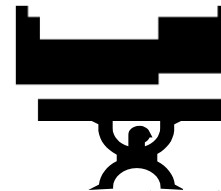
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Office hours: MWF 9:00-10:30, T 11:00-noon, AND by appointment

Class time: MWF 8:00-8:50 AM in room 320



Required text: *Inorganic Chemistry, 3rd ed.* by Catherine Housecroft (2008, Pearson)

Internet resources: http://wps.pearsoned.co.uk/ema_uk_he_housecroft_inorgchem_3/

(Note: the Chime plug-in only works with Internet Explorer, not FireFox, Opera, Safari, nor most newer versions of Netscape Communicator; be sure to utilize this resource!)

Course Description: Inorganic chemistry (3 semester hours) is a course dealing with reactions, mechanisms, and trends of all the elements on the periodic table. The course will cover topics on inorganic nomenclature, atomic structure, nuclear synthesis (synthesis of atoms), basic molecular orbital diagrams, structure of solids, acid-base chemistry, redox chemistry, metal complexes (including ligand field theory), descriptive chemistry, and organometallic chemistry.

Course Objectives: By the end of the semester, the successful CHM 511 student will be able to

- understand and explain atomic structure, including knowledge of electron orbitals and nuclear stability/decay
- determine the symmetry elements present in a molecule
- create and understand MO diagrams for simple molecules
- understand the relationship of ligands, d-orbital electrons, and stability of complexes
- explain and predict the acid-base properties of metal- and non-metal oxides
- provide nomenclature for inorganic complexes
- understand ionic and metallic lattice structures
- predict atomic trends based on the periodic table

Attendance policy: You are expected to attend lecture regularly. If you miss a lecture, you are responsible for obtaining assignments and making up missed work.

Grades: Points will be distributed as follows:

Major Exams	50%
Quizzes/Homework	25%
Written Reports	10%
Final Exam (cumulative)	15%

The grading scale is as follows:

A	90-100
B+/B	87-89/80-86
C+/C	77-79/70-76
D+/D	67-69/60-66
F	≤59

Major exams: Expect three major exams during the semester. Material for these will come from material presented in lecture, the text book, and concepts in the homework. Most likely, you will be given some extra time for the exams, since they will start at 7:30 am, instead of 8 am.

Quizzes/Homework: Occasionally, announced and unannounced quizzes may be given during lecture to keep students current with the class material. Homework may be assigned from the book *OR* additional problems (not from your book) may be given as a take home assignment to be collected. You are expected to work independent of other students in the class. If you have any questions about your assignments, please stop by during my office hours.

Written report: A double spaced, 4+ pages, typed report on a topic in inorganic chemistry will be written as part of this course. You will be expected to use literature resources from journals (*Inorganic Chemistry*, *Journal of the American Chemical Society*, *Progress in Inorganic Chemistry*, *Chemistry of Materials*, etc.), in addition to other sources you choose (textbooks, special topics books, monographs, etc.). Details will be forthcoming during the semester.

Final exam: The final exam is a comprehensive exam and will be given on **Monday December 6th, 8-11 AM**

Students with disabilities: In keeping with University policy, any student with a disability who requests academic accommodations should contact Disability Services at 503-5199 to arrange a confidential appointment with the Disability

Services Coordinator. Students are encouraged to seek an appointment as early in the semester as possible, as accommodations are not provided retroactively. Letters of accommodation must be signed and printed on letterhead from the Disability Services office. It is the student's responsibility to provide these letters to professors in a timely manner so that accommodations may be put in place.

Important University-wide Dates:

August 19 (Thursday)—Classes Start

September 6 (Monday)—Labor Day (no classes)

October 14-15 (Thursday-Friday)—Fall Break (no classes)

October 28 (Thursday)—Last day to withdraw without penalty

November 2 (Tuesday)—Election Day (no classes—go VOTE!!)

November 24-28 (Wednesday-Sunday)—Thanksgiving Break (no classes)

December 3 (Friday)—Last day of classes (classes ARE held)

Final Exam Schedule: December 6 (Monday) 8:00-11:00

The Final Exam is cumulative.

TENTATIVE Course Schedule

(will be modified as needed)

Monday	Wednesday	Friday
August 16 N/A	August 18 N/A	August 20 Chapter 1
August 23 Chapter 1	August 25 Chapter 1	August 27 Chapter 1
August 30 Chapter 2	September 1 Chapter 2	September 3 Chapter 2
September 6 <i>Labor Day (no class)</i>	September 8 Chapter 2	September 10 Chapter 3
September 13 Chapter 3	September 15 Chapter 3	September 17 Chapter 3
September 20 Special topic: coordination nomenclature	September 22 Special topic: coordination nomenclature	September 24 Chapter 4
September 27 Exam #1 Ch 1,2,3	September 29 Chapter 4	October 1 Chapter 4
October 4 Chapter 4 & 5	October 6 Chapter 5	October 8 Chapter 5
October 11 Chapter 5	October 13 Chapter 5	October 15 <i>Fall break (no class)</i>
October 18 Chapter 6	October 20 Chapter 6	October 22 Chapter 6
October 25 Exam #2 nomenclature, Ch4,5	October 27 Chapter 6	October 29 Chapter 6
<i>Last Day to Withdraw is Thursday Oct. 28</i>		
November 1 Chapter 6 & 7	November 3 Chapter 7	November 5 Chapter 7
November 8 Chapter 7	November 10 Chapter 21	November 12 Chapter 21
November 15 Chapter 21	November 17 Chapter 21	November 19 Chapter 24
November 22 Exam #3 Ch 6, 7, 21	November 24 <i>Thanksgiving break</i>	November 26 <i>Thanksgiving break</i>
November 29 Chapter 24	December 1 Chapter 24	December 3 Chapter 24 <i>Last day of classes</i>
December 6 Cumulative Final Exam 8:00-11:00	December 8 Study for your other classes!!	December 10 Study for your other classes!!

The instructor reserves the right to modify this syllabus