

ADVANCED INORGANIC CHEMISTRY (CHE 510)

Meeting Times: MWF 10:00 - 10:50 AM, CP-111

Instructor: Folami Ladipo, CP-109
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Office Hours: Open.

You may also make an appointment for a specific time. Please do not wait until the day before a problem set is due or an exam is pending to come see me for the first time.

Final Exam: Wednesday, December 12, 2007. 8:00 AM, CP-111.

Important Dates:

- Sept. 3. No class (Labor Day holiday).
- Sept. 12. Last day to drop with no record.
- Oct. 15. Middle of term.
- Oct. 19. Last day to withdraw from class.
- Nov. 21. No Class (Fall Break)
- Nov. 23. No class (Thanksgiving holiday)

Course Description

This course deals with important concepts of inorganic chemistry. Topics include atomic structure and periodicity, molecular structure, symmetry, bonding in polyatomic molecules, inorganic solids, band theory, reaction mechanisms, and ligand field theory. Additional topics, such as bioinorganic chemistry and areas of contemporary research, will be discussed as allowed by time constraints and student interest. Complementary topics in descriptive inorganic chemistry are treated in CHE 514; organometallic chemistry is covered in CHE 614.

Course Material

Required Text: Inorganic Chemistry, 3rd edition, Gary. L. Miessler and Donald A. Tarr; Pearson Prentice Hall 2004.

Optional Texts: Inorganic Chemistry: (a) Principles of Structure and Reactivity, Fourth Edition, J. E. Huheey, E. A. Keiter, R. L. Keiter; HarperCollins College Publishers: New York, 1993. (b) Molecular Symmetry and Group Theory, A. Vincent; John Wiley & Sons, New York, 1977. (c) Symmetry and Structure (Readable group theory for chemists), S. F. A. Kettle; John Wiley & Sons, New York, 1995.

The latter two books have been placed on reserve in the library.

Grading Policy

- Problem sets: 10%
- 3 exams: 30% each

Our accreditation association and policy of the Graduate School require that there be different assignments and grading criteria for undergraduate students and graduate students in 400G and 500-level courses. For that reason, you will find differences in course requirements in this class. Thus, each exam will contain **one additional question for graduate students only.**

The final assignment of letter grades will be based *approximately* on the following schedule:

A= 90+

B= 80+,

C= 70+,

D= 60+

E = <60

I reserve the right to raise or lower these divisions depending on the difficulty of exams and where breaks in the distribution occur. Grades are assigned on the basis of student performance, not proportions; in other words, students are not competing against each other for grades, and I am quite happy to give most of the class A's and B's if the class has earned them.

Examinations

Examinations will be given on **10/8/07** and **11/19/07**. These two exams will be evening exams, starting at 7:00 PM. Students may take up to 3 hours to finish the exam. The final exam will not be comprehensive but the questions will draw heavily concepts developed earlier in the course.

Problem Sets

Answer keys to the problem sets assigned in the duration of this course will be made available on the web. **Problem sets will not be graded or returned during the semester. However, a good effort in class and on the homework will work to your advantage if you aim to do well on examinations.** The problem sets are specifically designed to elaborate on ideas already taught in class and are therefore a test of your ability to assimilate and apply new concepts. Problem sets will only be graded after all examinations are completed and only if you fall between grades.

Academic Integrity

Academic integrity is covered in the handbook "Student Rights and Responsibilities" which all of you should have received (if not, consult the chemistry office). Possible penalties for academic offenses (cheating on exams etc.) range from an "E" for the course (the minimum penalty!) to expulsion from the University.

Attendance

I strongly recommend that you exercise good judgment. Attendance is reflective of the effort you put forth in the class and will be considered when assigning grades especially if you are on a borderline between grades.

Course Coverage

(Tentative) Readings for the course from Miessler and Tarr will include chapters 2-12 but not necessarily in this order. Readings outside the scope of the text will be assigned periodically; these readings will be made available on reserve at the library.

Finally, learning is an interactive process. If I have not made a point clear it is your responsibility to let me know. Ask questions. Ask why. There are no stupid questions except for the ones you didn't ask because you were afraid of looking stupid. Classroom participation is a key element in this class and can influence your grade.