This is a first course in inorganic chemistry with emphasis on the unification of descriptive chemistry with the basic principles that may be used to explain natural phenomena in inorganic chemistry. The physical and chemical properties of the elements and important classes of compounds will be described and explained. Acid-base and oxidation-reduction behavior will be emphasized along with coordination chemistry and bio-inorganic chemistry. Periodic trends are an integral part of the course. Pre- or co-requisite: CHEM 112.

Together with CHEM 452, this course meets the most recent ACS guidelines, which recommend a full year of inorganic chemistry in the undergraduate curriculum for students whose professional goal is to be a chemist (CHBS). It is also the recommended inorganic chemistry course for students in the BA, BSED, or BS (Biochemistry) degree programs.

**TEXTS:**


There are many basic inorganic chemistry books in the library.

**COURSE REQUIREMENTS AND POLICIES:**

**Regular attendance is required.**

Problems will be assigned in each class period.

Regular quizzes will be given mostly on Fridays. In addition, three midterm exams will be scheduled and the final exam will be comprehensive.

All students will take the exams and quizzes as scheduled. Other than health problems (*that require a signed excuse from a doctor*), excused absences will only be considered *before* the scheduled exam. A make-up exam will be scheduled at a mutually agreeable time within *two* days in these circumstances. There are no make-up quizzes. *With a valid excuse* the percentage in the final exam will be used to calculate the grade for the missed quiz.
CHAPTER TOPIC
1. The Electronic Structure of the Atom.
2. The Structure of the Periodic Table
3. Covalent Bonding and Molecular Spectroscopy
4. Metallic Bonding and alloys
5. Ionic Bonding and Solid State Structures

EXAM I (Chapters 1-6)
19 Transition Metal Complexes
20, 21 3d, 4d, 5d Transition Metals
22 Group 12 Elements

EXAM II (Chapters 19, 20, 21, 22, 24 & Bio-Inorganic)
24 The Rare Earth and Actinide Elements
6 Inorganic Thermodynamics
7 Solvent Systems and Acid base Behavior.
8 Oxidation and Reduction
10-17 The Main Group Elements

EXAM III (Chapters 7-18)

FINAL EXAM(COMPREHENSIVE): FRIDAY MAY 11, 8 - 10 am.

GRADING SYSTEM:
3 Mid-term Exams  300 pts
Quizzes  200 pts
Final Exam  200 pts
Total  700 pts

(EXTRA CREDIT WORTH 20 POINTS WILL BE GIVEN FOR ATTENDING A SPECIAL DEPARTMENT SEMINAR ON THURSDAY APRIL 5TH, 4:45 pm IN CAPUTO 210)

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Millersville University and its faculty are committed to assuring a safe and productive educational environment for all students. In order to meet this commitment, comply with Title IX of the Education Amendments of 1972, 20 U.S.C. §1681, et seq., and act in accordance with guidance from the Office for Civil Rights, the University requires faculty members to report to the University’s Title IX Coordinator incidents of sexual violence shared by students. The only exceptions to the faculty member’s reporting obligation are when incidents of sexual violence are communicated by a student during a classroom discussion, in a writing assignment for a class, or as part of a University-approved research project. Faculty members are obligated to report to the person designated in the University Protection of Minors policy incidents of sexual violence or any other abuse of a student who was, or is, a child (a person under 18 years of age) when the abuse allegedly occurred. Information regarding the reporting of sexual violence, and the resources that are available to victims of sexual violence, is available at http://www.millersville.edu/socialeq/title-ix-sexual-misconduct/index.php.