

CHEMISTRY 251: INORGANIC CHEMISTRY I COURSE SYLLABUS AND DESCRIPTION

Dr. Rajaseelan

Spring 2008

CAP-213; Ext. 3784

Office Hours: M : 11 –12 pm, W : 8-9 am & 11-12 pm

TH : 9 – 11am & 12 -1 pm

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:

Descriptive Inorganic Chemistry, Geoff Rayner-Canham & Tina Overton; fourth edition. (W.H. Freeman and Company, 2006)

In addition, you can refer to chapters on descriptive chemistry and coordination chemistry in Chemistry, 7th ed, Zumdahl.

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. 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 a mutually agreeable time within two days in these circumstances.

CHAPTER TOPIC

1	The Electronic Structure of the Atom.
2	Periodic Table
3	Covalent Bonding
4	Metallic Bonding
5	Ionic Bonding
6	Inorganic Thermodynamics
EXAM I (Chapters 1-6)	
19	Introduction to Transition Metal Complexes
20	Properties of Transition Metals
21	Group 12 Elements
23	The Rare Earth and Actinoid Elements

Bio Inorganic Chemistry

EXAM II (Chapters 19,20,21,23 & Bio-Inorganic)

7	Acids and Bases
8	Oxidation and Reduction
10-17	The Main Group Elements
18	The Noble Gases

EXAM III (Chapters 7-18)

FINAL EXAM(COMPREHENSIVE): FRIDAY MAY 9, 8 - 10 am.

GRADING SYSTEM:

3 Mid-term Exams	300 pts
Quizzes	200 pts
Final Exam	<u>200</u> pts
Total	700 pts

<u>Letter Grade</u>	<u>Percentage</u>	<u>Letter Grade</u>	<u>Percentage</u>
A	90 - 100%	C	70 - 74%
A-	87 - 90%	C-	67 - 70%
B+	84 - 87%	D+	64 - 67%
B	80 - 84%	D	60 - 64%
B-	77 - 80%	D-	57 - 60%
C+	74 - 77%	F	below 57%