

Chemistry 501

Advanced Inorganic Chemistry I

SYLLABUS Fall 2012

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Text: Douglas, McDaniel and Alexander: *Concepts and Models of Inorganic Chemistry*, 3rd Ed.

This course will deal primarily with atomic, molecular and solid state structures, bonding and acid-base chemistry. Descriptive chemistry of some representative elements will be covered in student presentations. Material covered will be taken from the following chapters of DM&A:

Chapt. 1	Atomic Structure and the Periodic Table
Chapt. 2	Molecular Models
Chapt. 3	Symmetry
Chapt. 4	Discrete Molecules: Molecular Orbitals
Chapt. 5	Inorganic Solids: Ionic Models
Chapt. 6	Solid-State Chemistry
Chapt. 7	Acids and Bases

Grading will be based on a mid term exam and a final (Wednesday, December 19 @3PM), several homework assignments, a short report, and classroom presentation.

Some other Useful Texts/monographs:

Pauling: Nature of the Chemical Bond

Hertzberg: Atomic Spectra and Atomic Structure

Cotton: Chemical Applications of Group Theory

Day/Selbin: Theoretical Inorganic Chemistry

Coulson: Valence

Cotton & Wilkinson: Advanced Inorganic Chemistry

(6th ed with Murillo & Bochman: earlier editions are stronger on principles)

There are several other comprehensive inorganic texts

– you may already have one.

The above are some of the "classics" to which I will often refer. There are a number of other good texts and monographs in the URI library and in my office.