**Department of Chemistry Syllabus**

This syllabi is advisory only. For details on a particular instructor's syllabus (including books), consult the instructor's course page. For a list of what courses are being taught each quarter, refer to the Courses page. *Every instructor has prerogative to teach the course as they see fit and ultimately the instructor's syllabus supersedes all others.*

***CHE 124A: Inorganic Chemistry Fundamentals***

Approved:

**Suggested Textbook**: (actual textbook varies by instructor; check your instructor)

"Inorganic Chemistry" Housecroft and Sharpe Custom edition for University of California Davis

“Introduction to Molecular Symmetry” J. S. Ogden

Molecular model set

"Inorganic Chemistry Solutions Manual" 4th edition Housecroft

**Suggested Schedule:**

Week 1 & 2 Chapter 1, 2. Atomic Structure and molecules

Week 2& 3 Chapter 2, 3. Basic concepts and Symmetry

Week 4-8 Chapter 3, 5 (+ 19, 20) Molecular symmetry,

Week 9-10 Chapter 6. Structures and energetics of metallic and ionic solids & Physical methods

**Additional Notes:**

It is expected that the entire Periodic Chart (element symbol + element name) be memorized for the final exam.

**Learning Goals:**

On completion of this course you should be familiar with basic concepts of symmetry and their applications to molecular orbital (MO) bonding theory and spectroscopy of covalent compounds. You should be able to construct molecular orbital energy diagrams, understand the symmetry of the orbitals and how these are related to the spectroscopic characteristics of the molecules. In addition, you should be able to understand bonding in ionic compounds and how the bonding in these compounds is accounted for in terms of a simple electrostatic model.

**Assessment:**

Students' progress in the course is typically assessed by 2 midterms exams during the quarter as well as a comprehensive final examination, as well as by homework problems and quizzes in addition.