This text addresses the fundamentals of inorganic chemistry with emphases on symmetry, molecular geometry and structure, molecular orbital theory of bonding (polyatomic molecules and transition metals), solid state chemistry, energetics and spectroscopy of inorganic compounds. 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.
3: Simple Bonding Theory

4: Symmetry and Group Theory

5: Molecular Orbitals

6: Larger (Polyatomic) Molecules
7: Solids

8: Coordination Chemistry

9: Crystal Field Theory

10: Ligand Field Theory
11: Spectroscopic Techniques

• Back Matter