FALL 2020 - CHEMISTRY 641
MWF (2:55 – 3:45) (Virtual)

STRUCTURAL INORGANIC CHEMISTRY

Instructor: Dr. Michael B. Hall
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Texts: "Essentials of Computational Chemistry", 2nd Edition
Christopher J. Cramer (Wiley, 2004) (CC)

"Ligand Field Theory and Its Applications"
Brian N. Figgis and Michael A. Hitchman (Wiley-VCH, 2000) (FH)

"Introduction to chemical bonding; ionic, covalent, coordinate and hydrogen bonding; relationship of molecular orbital and ligand field theories to experimental studies of the electronic structure of inorganic molecules" (**TAMU Catalog**) An introduction to electronic and molecular structure as applied to inorganic chemistry. Emphasis will be placed on the practical aspects with numerous chemical examples and computer applications. Topics will include: atomic structure, molecular orbital theory, density functional theory, ligand field theory, electronic spectra, photoelectron spectra, electron deficient molecules, structure of metal clusters, hypervalent molecules, structure of organometallics, metal-metal bonds, and applications of symmetry to chemical reactions.