

Chem 324: Transition Metal Chemistry

Course description: Coordination chemistry of the d-block metals. Electronic structure, properties, reactions, and applications of transition metal complexes.

Course Goals

Develop an understanding of coordination chemistry

Develop an understanding of the systematic naming of inorganic compounds

Develop the ability to relate chemical structure to observable properties

Develop the ability to apply the relationships between electronic structure and the spectroscopic or magnetic properties of materials

Develop the ability to use theoretical frameworks in chemistry to rationalize or predict experimental observations

Develop an understanding of the different theoretical frameworks for bonding and structure

Develop the ability to draw molecules, including conventions and tools to represent their stereochemistry

Develop an understanding of the consequences of the three dimensional structure of molecules.

Develop the ability to apply the concept of coordination chemistry and functional group transformation to inorganic chemistry

Develop an understanding of the concepts of magnetism in chemistry

Develop an understanding of inorganic reaction mechanisms and kinetics

Develop an introductory understanding of metals in bioinorganic chemistry

Develop an introductory understanding of organometallic chemistry

Program Goals

Develop the ability to represent chemical information.

Develop an understanding of the use of models, their premises, advantages and limitations.

Develop competence in problem solving.

Develop the ability to disseminate scientific information orally and in writing.