

## Chemistry 421: Contemporary Inorganic Chemistry

*Course outline:* Selected topics in inorganic chemistry that may include main group chemistry, inorganic polymers and macromolecules, bioinorganic chemistry or f-block chemistry.

### Course Goals

Develop the ability to use the Periodic Table of the Elements

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

Develop the ability to apply models of bonding to molecules and materials

Develop an understanding of all types of chemical bonding and molecular structure in the context of MO theory

Develop an understanding of the concepts of symmetry as applied to chemistry

Develop the ability to recognise and visualize the shapes and symmetry of molecules

Develop an understanding of the relevance of inorganic chemistry to synthesis, biology, industry, or society.

### Program Goals

Develop the ability to represent chemical information.

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

Develop the ability to use the chemical literature in a critical manner.

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

Develop competence in problem solving.