

## Chem 337: Bio-organic Chemistry

*Course description:* Survey of electronic and medium effects on reactivity. Catalysis of organic reactions. Bio-organic reaction mechanisms and biomimetic model systems.

### Course Goals

Develop an understanding of the different types of interactions between molecules

Develop the ability to draw reaction mechanisms

Develop the ability to apply the concepts of acidity and basicity to aqueous systems

Develop an understanding of the concepts and applications of catalysis

Develop an understanding of the mechanisms of acid/base catalysis in organic reactions

Develop the ability to apply the concepts of intermolecular interactions to chemical reactivity

Develop an understanding of the chemical properties of biochemical building blocks and biochemical process

Develop an understanding of the chemistry involved in both enzymatic and non-enzymatic biochemical processes

Develop the ability to critically evaluate conflicting literature or experimental data

Develop the ability to engage in a discussion on a chemical topic that does not have a clear-cut answer

Develop an understanding of the concepts and applications of kinetics for one-step and multistep reactions

Develop the ability to apply the concept of energy barriers to chemical reactions

### 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 disseminate scientific information orally and in writing.

Develop the ability to work effectively in a team.

Develop the ability to engage in scientific discussions.