

Chem 364: Physical Chemistry Laboratory

Course description: Emphasizes experimental physical chemistry, data collection and analysis

Course Goals

Develop an understanding of the principles behind physical measurements and their laboratory implementations

Develop an understanding of the relationship between chemical processes and energy

Develop an understanding of the relationship between kinetics and mechanisms

Develop an understanding of the properties and phenomena of interfaces and surfaces

Develop an understanding of spectroscopy and spectrometry methods and their applications

Develop the ability to use computational/software tools in chemistry

Develop an understanding of the relationship between experimental data, the corresponding plot and fits to theoretical equations

Develop the ability to execute physical measurements in chemistry

Program Goals

Develop the ability to design, conduct and observe chemical experiments and to record and critically analyze data from chemical experiments.

Develop the ability to work competently, independently and safely in a laboratory environment.

Develop the ability to apply error analysis and determine significant figures.

Develop the ability to apply mathematics to chemistry.

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

Develop competence in problem solving.

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

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

Develop the ability to engage in scientific discussions.

Develop the ability to apply academic and scientific integrity to scholarly and professional endeavors.