

## Chemical Chemistry Lab

Course description Emphasis on experimental physical chemistry data collection and analysis

### Conceptual

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 spectroscopic and spectrometric 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