

Chem 245: Introduction to Thermodynamics

Course description: Introduction to the principles of thermodynamics. Applications to gas and solution reactions and phase transitions. The tutorial portion of the course emphasizes numerical problem solving

Course Goals

Develop an understanding of the first law of thermodynamics and its applications

Develop an understanding of the second law of thermodynamics and its applications

Develop an understanding of the concepts of state and path functions

Develop an understanding how heat and work are measured in chemical processes

Develop an understanding of the concept and applications of standard states

Develop the ability to read and extract quantitative information from phase diagrams

Develop an understanding of the concept of reversibility and its relation to equilibrium

Develop an understanding of the concept and applications of chemical potential

Program Goals

Develop competence in problem solving.

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 an understanding of the impact and relevance of chemistry in society.