

CHEM 4302 Statistical Thermodynamics

Course Description:

In this introductory statistical mechanics class, the following topics will be discussed:

- (1) The required fundamental mathematical tools including statistics and probability;
- (2) The postulates of statistical mechanics;
- (3) Statistical descriptions of the thermodynamic properties of ideal gases;
- (4) Chemical applications of statistical mechanics; and
- (5) The concepts of molecular simulations based on principles of statistical mechanics.

Main Course Outline (for reference only):

1. Introduction to statistical thermodynamics
2. Statistical description of systems of particles
3. Brownian Motion
4. Introduction to molecular simulations