

CHEM 1300 Fundamentals in Physical Chemistry

Course Description:

The transition between high school and university presents new challenges for the students of chemistry. This course reviews the basic concepts of physical chemistry introduced in CHEM1070 and provides the foundations of three mandatory physical chemistry courses in the latter years of the chemistry curriculum. In particular, special topics in thermodynamics, atom structure, quantum chemistry, and chemical kinetics are discussed. Problem-solving skills are introduced to help bridge the gap in the upper-level physical chemistry courses for chemistry majors.

Main Course Outline (for reference only):

- Curriculum in physical chemistry
- Differentiation with examples from classical mechanics and physical chemistry
- Integration with examples from classical mechanics and physical chemistry
- Multivariable differentiation and integrations with examples from thermodynamics
- Taylor's expansions and idea of basis sets with examples from quantum mechanics