

Bemidji State University

CHEM 4711: Physical Chemistry I

A. COURSE DESCRIPTION

Credits: 3

Lecture Hours/Week: *.*

Lab Hours/Week: *.*

OJT Hours/Week: *.*

Prerequisites: None

Corequisites: None

MnTC Goals: None

Fundamental understanding of chemical and physical properties of atoms and molecules through quantum mechanical and classical approaches. Prerequisites: CHEM 2212 and PHYS 2101.

B. COURSE EFFECTIVE DATES: 08/02/2010 - Present

C. OUTLINE OF MAJOR CONTENT AREAS

1. Chemical Equilibrium
2. Complex Biochemical Processes
3. First Law of Thermodynamics
4. Ion & Electron Transport
5. Phase Equilibria
6. Rate Laws
7. Reaction Kinetics
8. Second Law of Thermodynamics
9. The Rates of Reaction
10. Thermochemistry
11. Thermodynamics

D. LEARNING OUTCOMES (General)

1. be able to predict how two & three component systems will respond to composition, temperature, and pressure changes.
2. be able to analyze kinetics data, in order to gain insight into the microscopic processes occurring.

E. Minnesota Transfer Curriculum Goal Area(s) and Competencies

None

F. LEARNER OUTCOMES ASSESSMENT

As noted on course syllabus

G. SPECIAL INFORMATION

None noted