

# Bemidji State University

## CHEM 4712: Physical Chemistry II

### 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 4711 or consent of instructor.

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

### C. OUTLINE OF MAJOR CONTENT AREAS

1. Chemical Equilibrium
2. IUPAC Nomenclature
3. Macromolecules
4. Molecular Statistics
5. Optical & Magnetic Resonance Spectroscopy
6. Quantum Theory
7. The Chemical Bond

### D. LEARNING OUTCOMES (General)

1. be able to describe the forces determining macromolecule structure and to apply statistical understanding to use partition functions to understand protein structure.
2. be able to describe and explain how quantum mechanics can be used to understand molecular structure and energy levels.

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

None

### F. LEARNER OUTCOMES ASSESSMENT

As noted on course syllabus

### G. SPECIAL INFORMATION

None noted