Douglas College

Division:
Department /
Program Area

Date:
New Course ☐ Revision ☐

If Revision, Section(s) Revised
Date Last Revised:

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This course investigates several topics in physical chemistry, including phase equilibria, spectroscopy, kinetics, and the thermodynamics of electrolyte solutions, and then applies the principles of thermodynamics and bonding to the study of coordination compounds. The laboratory stresses instrumental methods in inorganic chemistry.

Allocation of Contact Hours to Type of Instruction / Learning Settings Primary Methods of Instructional Delivery and/or Learning Settings: Number of Contact Hours: (per week / semester for each descriptor) Number of Weeks per Semester:	Course Prerequisites: Course Corequisites: Course for which this Course is a Prerequisite Maximum Class Size:

PLEASE INDICATE

Non-Credit

Course Objectives / Learning Outcomes

With the aid of the relevant thermodynamic data, a periodic table, an equation sheet, and a calculator, the student will be able to:

2. **Phase Equilibria**

One and two component systems, Gibbs phase rule, review of ideal solutions, tie-line rule, P vs X and boiling point diagrams for two liquid components, distillation, partially miscible pairs, binary phase diagrams for condensed phases.

3. **Solutions of Electrolytes**

Theories of strong and weak electrolytes, ionic strength, activity and activity coefficient; use of activities of electrolytes in pH and equilibrium calculations.

4. **Chemical Kinetics**

(a) **Elementary Reactions**