

COCONINO COMMUNITY COLLEGE  
COURSE OUTLINE

Prepared by: Rhonda L. Shaeffer  
Revised by: Carl Shepard  
General Education Outcomes reviewed by: Carl Sheperd  
Revised by: Michele Van Hulle  
Status: Permanent  
Effective: Fall 2015

December 4, 1991  
Spring 2000  
March 23, 2001  
February 3, 2015

A. Identification:

1. Subject Area: Chemistry (CHM)
2. Course Number: 152
3. Course Title: General Chemistry II
4. Credit Hours: 5
5. Course Description: Continuation of Chemistry 151 with an emphasis on kinetics and equilibrium, nuclear, aqueous solution, and electro chemistry. Prerequisite: CHM 151. General Education: Physical and Biological Lab Science. Four lecture. Three lab.

B. Course Goals:

To give students a greater understanding of chemical principles and concepts, familiarize them with Scientific Methods and general laboratory procedures, and give them the ability to apply basic chemistry principles.

C. Course Outcomes: Students will:

1. apply the scientific method to the study of chemistry;
2. communicate laboratory results in written and oral form;
3. manipulate and use the metric system for measurements and analysis;
4. perform quantitative calculations including:
  - a. equilibrium constants;
  - b. half-life and mass-energy;
  - c. Redox equations ;
  - d. various laws and principles;
5. demonstrate an understanding of reaction kinetics, rate laws and reaction rates;
6. solve problems requiring applications of abstract concepts and algebraic manipulation;
7. and utilize basic laboratory techniques.

D. Course Outcomes Assessment will include:

1. comprehensive final exam;
2. and instructor evaluated lab report.

E. Course Content will include:

1. equilibrium: acid/base solubility;
2. kinetics: reaction rate theory; reaction order; rate laws and profiles;
3. nuclear chemistry;
4. redox reactions and electrochemical cells, SRP's, Nernst equation, Faraday's Laws, metals and metallurgy;
5. and chemical thermodynamics: heat, energy and spontaneity.