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COURSE SYLLABUS

COURSE: CHM 152 GENERAL CHEMISTRY II

HOURS: Lecture: **3** Lab/Shop: **3** Work Exp/Clinical: **0** Credits: **4**

COURSE DESCRIPTION:

This course provides a continuation of the study of the fundamental principles and laws of chemistry. Topics include kinetics, equilibrium, ionic and redox equations, acid-base theory, electrochemistry, thermodynamics, introduction to nuclear and organic chemistry, and complex ions. Upon completion, students should be able to demonstrate an understanding of chemical concepts as needed to pursue further study in chemistry and related professional fields**.**
Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the Universal General Education Transfer Component requirement for natural sciences in the A.S. degree program. This course has been approved to meet the natural sciences requirement in A.A.S. degree programs.

PREREQUISITE(S): CHM 151

COREQUISITE(S): None

TEXTBOOK(S) & OTHER SPECIAL REQUIREMENTS:

Open Educational Resources (OER) are listed in the course Moodle.

STUDENT LEARNING OUTCOMES:

Upon successful completion of this course, the student will be able to:

1. Demonstrate a comprehension of the fundamental principles and laws of stoichiometry, thermochemistry, chemical bonding, atomic structure, and chemical periodicity through graphing, drawing, use of formulas, and application in problem solving.
2. Use problem-solving skills in applying the laws of kinetics, equilibrium, thermodynamics, electrochemistry, and nuclear chemistry.
3. Recognize, describe, and predict products of acid-base reactions and redox reactions.
4. Calculate pH, concentrations, and equilibrium constants.
5. Apply techniques and principles of qualitative analysis using spectrophotometric and chromatographic techniques.
6. Identify the properties of the major classes of organic compounds.
7. Describe principles and experimental procedures clearly and briefly through writing of laboratory reports.
8. List five ways that chemistry has had an affect on today's technology-oriented society and describe the impact and significance of each.
9. Demonstrate active oral and written communication skills as well as select and use appropriate means and methods to communicate thoughts and ideas on chemical concepts.

*****Please refer to the online version of the Richmond Community College Program & Course Catalog and the Student Handbook for current academic and general information.**