



COURSE SYLLABUS

PO Box 1189
1042 W. Hamlet Avenue
Hamlet, NC 28345
(910) 410-1700
www.richmondcc.edu

COURSE: CHM 252 ORGANIC CHEMISTRY II

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

COURSE DESCRIPTION:

This course provides continuation of the systematic study of the theories, principles, and techniques of organic chemistry. Topics include nomenclature, structure, properties, reactions, and mechanisms of aromatics, aldehydes, ketones, carboxylic acids and derivatives, amines and heterocyclics; multi-step synthesis will be emphasized. Upon completion, students should be able to demonstrate and understanding of organic 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 pre-major/elective requirement in A.A. and A.S. degree programs.

PREREQUISITE(S): CHM 251

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. Interpret and predict infrared spectra in terms of functional groups and classes of compounds.
2. Interpret and predict Carbon-13 and proton nuclear magnetic resonance spectra in terms of functional groups and classes of compounds.
3. Interpret and predict mass spectroscopy data and graphics in terms of isotopes, molar masses and species fragments.
4. Identify and explain conjugated systems; and predict their reactions.
5. Identify and explain aromatic systems; predict and explain their physical properties and reactions.
6. Identify and explain aldehydes and ketone systems; predict and explain their physical properties and reactions. Identify related classes of compounds.
7. Identify and explain carboxylic acids and their derivatives; explain pH characteristics and their reactions.
8. Identify and explain amines and their derivatives; relate amine reactions to metabolic systems.
9. Identify carbohydrate systems, and explain their importance in the human body.
10. Explain the structure and properties of peptides and proteins in terms of amino acid building blocks.
11. Explain the structures and synthesis of natural and man-made polymer systems.
12. Be familiar with the terminology of lipid molecules and structures in biological systems.

13. Correctly use organic synthesis, separation and characterization laboratory methods.

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