

**COCONINO COMMUNITY COLLEGE  
COURSE OUTLINE**

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Effective Term: Fall 2020

Date: 01/02/2020

**A. Identification:**

1. Course Subject: Chemistry
2. Course Number: CHM 230
3. Course Title: Organic Chemistry
4. Credit Hours: 4
5. **Course Description:** Prerequisite: CHM130 or the CHM151 and CHM152 course sequence. Fundamental Organic Chemistry class (CHM230) is a single semester Chemistry class aimed to provide a brief overview of organic Chemistry to impart a basic understanding of the subject. This class is designed for students who require a basic understanding of organic chemistry (such as pre-medical, pre-dental, physical therapy program) without requiring the rigor of a two-semester organic chemistry class. Three lecture. Three lab.

**B. Course Goals:**

Students will earn a basic understanding of the chemistry of organic compounds and the unique characters of these compounds compared to inorganic compounds. Besides, students will get an understanding of the application of organic chemistry in the living system i.e., biochemistry principles.

**C. Course Outcomes:**

Students will be able to:

1. Comprehend the unique characters of organic compounds and related chemistry
2. Interpret the importance of organic compounds in living systems
3. Develop an understanding of the classification of various class of organic compounds and their names
4. Comprehend the basic concept of
  - a. Resonance
  - b. Stereochemistry
  - c. Isomerism
  - d. Electron delocalization
5. Write a basic reaction mechanism of organic reactions
6. Comprehend the origin and unique properties of Aromatic compounds
7. Demonstrate an understanding of biologically important organic compounds
  - i. Carbohydrates
  - ii. Proteins and peptides
  - iii. Amino acids
  - iv. Lipids
  - v. DNA
8. Perform basic synthesis and characterization of Organic compounds

**D. Course Outcomes Assessment:**

- Must include:
1. Homework

2. Chapter quizzes
3. Lab work and reports
4. Tests
5. Final Exam

**E. Course Content:**

Will include:

1. Lewis dot structure and molecular orbital theory
2. Introduction to organic chemistry and functional group
3. Classification of organic compounds
4. Resonance, Isomerism & Stereochemistry of organic compound
5. Alkanes, Alkenes, and Alkynes – Structure, Nomenclature, stability and reaction
6. Reaction mechanism and delocalization of electrons
7. Aromatic compound – structure, properties, and reactions
8. Amino acids, Proteins, and peptides
9. Carbohydrates, lipids
10. Nucleic acids and DNA
11. Lab works – Organic synthesis, purification, characterization etc