



### III. Statement of Course Need

- A. This is the first course in a two-semester sequence (Organic Chemistry I and II) that may be required by some transfer institutions.
- B. An Organic Chemistry I Laboratory course is required in most programs. Students wishing to fulfill a RVCC program should take CHEM 211 which includes the lab component, or the lab must be taken at a transfer institution.
- C. This course generally transfers as a program requirement and/or a free elective dependent on the transfer institution.

### IV. Place of Course in College Curriculum

- A. Free Elective
- B. This course does not meet any RVCC program requirements.
- C. To see course transferability: a) for New Jersey schools, go to the NJ Transfer website, [www.njtransfer.org](http://www.njtransfer.org); b) for all other colleges and universities, go to the individual websites.

### V. Outline of Course Content

- A. Introduction and Review of General Chemistry
- B. Structures and Properties of Organic Molecules
- C. Structure, Naming, and Conformational Analysis of Alkanes and Cycloalkanes
- D. Stereochemistry
- E. Spectroscopic and spectrometric methods
  - a. Infrared Spectroscopy
  - b. Mass Spectrometry
  - c. Nuclear Magnetic Resonance
- F. The Study of Organic Reactions
- G. Structure, Naming, and Reactions for
  - a. Alkanes
  - b. Alkenes
  - c. Alkynes
  - d. Alkyl Halides
- H. Nucleophilic Substitution and Elimination Reactions of Alkyl Halides
- I. Organic Synthesis

## VI. General Education and Course Learning Outcomes

### A. Course Learning Outcomes:

At the completion of the course, students will be able to:

1. Demonstrate a knowledge of and the ability to critically analyze the principles of organic chemistry. (GE-3\*)
2. Use the knowledge of reactivity of functional groups to predict the products of organic reactions and design rational syntheses of selected compounds.
3. Draw detailed arrow-pushing mechanisms for organic chemical reactions.

### B. Assessment Instruments

1. Exams (required)
2. Quizzes
3. Pre-lecture reading quizzes
4. Informal interactive games
5. Discussion questions

## VII. Grade Determinants

- A. Exams (required)
- B. Quizzes

Primary format, modes, and methods for teaching and learning that may be used in the course:

- A. Lecture/discussion
- B. Group work

## VIII. Texts and Materials

- A. Klein, David R, *Organic Chemistry*, latest edition (print or electronic), Wiley.
- B. WileyPLUS online subscription
- C. Molecular model kit

Please Note: The course outline is intended only as a guide to course content and resources. Do not purchase textbooks based on this outline. The RVCC Bookstore is the sole resource for the most up-to-date information about textbooks.

## IX. Resources: None.

## X. Check One: Honors Course Honors Options N/A