1. **COURSE TITLE\*:** Organic Chemistry II
2. **CATALOG – PREFIX/COURSE NUMBER/COURSE SECTION\*:** CHEM 2202
3. **PREREQUISITE(S)\*:** CHEM 2201

**COREQUISITE(S)\*:** CHEM 2212

1. **COURSE TIME/LOCATION/MODALITY: (*Course Syllabus – Individual Instructor Specific*)**
2. **CREDIT HOURS\*:** 4 **LECTURE HOURS\*:** 4

 **LABORATORY HOURS\*:** 0  **OBSERVATION HOURS\*:** 0

1. **FACULTY CONTACT INFORMATION: *(Course Syllabus – Individual Instructor Specific)***
2. **COURSE DESCRIPTION\*:**

This course is designed to give the student extensive background in bonding, nomenclature, and reactions of organometallics, alcohols, diols, ethers, epoxides, aldehydes and ketones. Reactions of these types of compounds or leading to their formation will be covered, including electrophilic aromatic substitutions and nucleophilic additions to the carbonyl group to enolates and organometallics. Spectroscopy of organic compounds will be introduced.

A course designed to give the student extensive background in bonding, nomenclature, and reactions of carboxylic acids and their derivatives, amines, aryl halides and phenols. Reactions of these types of compounds or leading to their formation will be covered. Basis biomolecules such as carbohydrates, lipids, amino acids, and proteins and nucleic acids will be introduced with an emphasis on their basic primary, secondary and tertiary structures, as appropriate, and certain simple properties and reactions from an organic chemical perspective.

1. **LEARNING OUTCOMES\*:**

Upon completion of this course the student should be able to:

1. Describe the difference in bonding and structure between organometallic compounds and other compounds of the same metals.
2. Predict the product of nucleophilic addition to the carbonyl group by enolate anions and organometallics and understand the mechanism involved.
3. Determine IUPAC names of arenes, aldehydes, ketones, ethers and organometallics.
4. Understand nucleophilic acyl substitution.
5. Understand the chemistry and acidity of carboxylic acids and their derivatives.
6. Understand the chemistry of amines and phenols.
7. Understand the chemistry of ester enolates.
8. Understand the chemistry of polymers, both industrial and biological.
9. Understand the rudiments of biological chemistry including carbohydrates, lipids, proteins, nucleosides, nucleotides, nucleic acids and others.
10. **ADOPTED TEXT(S)\*:**

*Organic Chemistry*, 10th Edition

Carey and Giuliano, 2016

McGraw-Hill

ISBN: 978-0-07-351121-4

1. **OTHER REQUIRED MATERIALS: (SEE APPENDIX C FOR TECHNOLOGY REQUEST FORM.)\*\***

The molecular modeling CD-ROM bundled with the text is required and will be used with College supplied computer resources. Other books and materials will be supplied in the class.

1. **GRADING SCALE\*\*\*:**

Grading will follow the policy in the catalog. The scale is as follows:

A: 90 – 100

 B: 80 – 89

 C: 70 – 79

 D: 60 – 69

 F: 0 – 59

1. **GRADING PROCEDURES OR ASSESSMENTS: (*Course Syllabus – Individual Instructor Specific)***
2. **COURSE METHODOLOGY: *(Course Syllabus – Individual Instructor Specific)***

**14. COURSE OUTLINE: *(Course Syllabus – Individual Instructor Specific)***

***(Insert sample course outline with learning objectives tied to assignments / topics.)***

**15. SPECIFIC MANAGEMENT REQUIREMENTS\*\*\*:**

At the discretion of the instructor.

**16. FERPA:\***

Students need to understand that your work may be seen by others. Others may see your work when being distributed, during group project work, or if it is chosen for demonstration purposes. Students also need to know that there is a strong possibility that your work may be submitted to other entities for the purpose of plagiarism checks.

**17. DISABILITIES:\***

Students with disabilities may contact the Disability Services Office, Central Campus, at 800-628-7722 or 937-393-3431.

**18. OTHER INFORMATION\*\*\*:**

**SYLLABUS TEMPLATE KEY**

**\*** Item cannot be altered from that which is included in the master syllabus approved by the Curriculum Committee.

**\*\*** Any alteration or addition must be approved by the Curriculum Committee

**\*\*\*** Item should begin with language as approved in the master syllabus but may be added to at the discretion of the faculty member.