1. **COURSE TITLE\*:** Organic Chemistry Lab I
2. **CATALOG – PREFIX/COURSE NUMBER/COURSE SECTION\*:** CHEM 2211
3. **PREREQUISITE(S)\*:** CHEM 1151/1152 & CHEM 1161/1162

**COREQUISITE(S)\*:** CHEM 2201

1. **COURSE TIME/LOCATION/MODALITY: (*Course Syllabus – Individual Instructor Specific*)**
2. **CREDIT HOURS\*:** 1 **LECTURE HOURS\*:** 0

**LABORATORY HOURS\*:** 3 contact hours **OBSERVATION HOURS\*:** 0

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

A course designed to give the student hands-on laboratory experience with the concepts of Organic Chemistry 2201 and the use of experimental apparatus and techniques used in the practice of organic chemistry. Emphasis will be on microscale technique due to its safety and economy of time and resources as well as its frequent need in biochemical, natural product, environmental and pharmaceutical fields; however, some macroscale experiments may be performed. Experiments will include molecular modeling of compounds studied in Organic Chemistry 2201; basic techniques of recrystallization, melting point and boiling point determination, distillation, extraction, chromatography, and spectroscopy; the SN2 reaction mechanism; selected addition and elimination reactions of alkenes, alcohols, and alkyl halides; 1,2 and 1,4 additions and Diels-Alder cycloaddition of conjugated dienes; infrared, gas chromatography and uv/visible spectrophotometry.

1. **LEARNING OUTCOMES\*:**

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

1. Understand and visualize the structure of alkanes, alkenes, alkynes, alcohols, and alkyl halides.
2. Use common laboratory apparatuses for basic techniques of recrystallization, melting point determination, distillation, extraction, chromatography, and spectroscopy.
3. Understand the basic concepts of and the actual experimental procedure to carry out the SN2 substitution of a halogen for the hydroxyl group of an alcohol.
4. Understand the basic concepts of and the actual experimental procedures to carry out elimination and addition reactions to interconvert alcohols, alkenes, and alkyl halides.
5. Understand and perform both direct and conjugate addition reactions of alkenes and dienes, including the Diels-Alder cycloaddition.
6. Use common spectroscopic techniques like Infrared and UV/Visible Spectrophotometry for identification of organic compounds and interpret simple spectra obtained by these techniques.
7. **ADOPTED TEXT(S)\*:**

*Macroscale and Microscale Organic Experiment*, 7th Edition

By: Kenneth L. Williamson

Cengage, 2016

ISBN: 978-1-305-57719-0

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

Safety goggles (laboratory fume hoods, aprons, gloves, and any other necessary personal protective equipment will be supplied). Laboratory equipment and chemicals 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\*\*\*:**

Students who exhibit behavior that is disruptive to the learning process will after a verbal warning be dismissed from the class.

In the laboratory, students are required to follow all safety rules and procedures specified by the instructor. Anyone not working quietly and safely will be asked to leave and will receive a zero for that day's lab assignment.

**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.