

**CHEM 3719 - Organic Chemistry I - Spring Semester 2020 - CRN: 21086**

**Dates, Time, Location:** Tuesday, Thursday - 5:10 - 6:25 PM - Cushwa Hall - Room B112

**Instructor:** Dr. John A. Jackson

**Office:** 5022 Ward Beecher Hall

**Office Hours:** M,W 4:00-5:00 PM; T,Th 3:30-4:30 PM, 7:45-8:15 PM.

**Email:** jajackson@ysu.edu **Phone:** (330) 941-1551

**Course Website:** <http://jajackson.people.ysu.edu/CHEM3719/index.html>

**Course Description & Prerequisites:** CHEM 3719. Organic Chemistry I. 4 s.h. Organic compounds, reactions and theories. Typical preparations and procedures of analysis. Three hours lecture, three hours lab-discussion. Prerequisite: "C" or better in CHEM 1516.

**Required Course Material:** Textbook - Organic Chemistry, 3rd Edition, David R. Klein, ISBN: 978-1-119-35160-3

**Tentative Lecture Schedule:**

Chapter 1. A Review of General Chemistry: Electrons, Bonds, and Molecular Properties. Week(s) 1-2.

Chapter 2. Molecular Representations. Week(s) 2-3.

Chapter 3. Acids and Bases. Week(s) 4-5.

Chapter 4. Alkanes and Cycloalkanes. Week(s) 6-7.

Chapter 5. Stereoisomerism. Week(s) 7-8.

Chapter 6. Chemical Reactivity and Mechanisms. Week(s) 9-10.

Chapter 7. Substitution and Elimination Reactions of Alkyl Halides. Week(s) 11-12.

Chapter 8. Addition Reactions of Alkenes. Week(s) 12-13.

Chapter 9. Alkynes. Week 13.

Chapter 10. Radical Reactions. Week(s) 14-15.

Chapter 11. Synthesis. Week 15.

**Course Objectives:** The focus of this course will be to help the students understand the underlying principles of Organic Chemistry. The students will be able to appreciate the relationship between the structure of an organic compound or intermediate, and its physical, chemical, and/or spectroscopic properties. The material presented in this course provides the necessary foundation for continued studies in Organic Chemistry, including the mechanisms of organic reactions, organic synthesis, bioorganic chemistry, and other related fields that involve organic molecules.

**Ohio Higher Ed. - CHEM 3719 - Student Learning Outcomes.** Students must be proficient in all of the following core competencies:

1. Theories of structure and bonding in organic compounds including Lewis structures, resonance, valence bond theory/hybridization, and molecular orbital theory.
2. Acid-base reactions of organic compounds.
3. Stereochemistry, isomerism and conformational analysis.
4. Nucleophilic substitution and elimination reactions.
5. Chemistry of alkenes and alkynes.
6. Free radical chemistry.

**Ohio Higher Ed. - CHEM 3719 - Student Learning Outcomes.** Students must have developed:

7. Familiarity with IUPAC nomenclature.
8. An ability to propose reaction mechanisms and associated energy vs. reaction coordinate diagrams, using structural representations and curved arrows representing electron movement, with application of these skills to new situations.
9. An ability to design syntheses, use of retro-synthetic analysis.
10. An understanding of stereochemical implications in organic reactions and mechanisms.
11. An appreciation for a variety of applications of organic chemistry in society, including biological and synthetic polymers and biologically/medicinally relevant organic chemistry.

<https://www.ohiohighered.org/sites/ohiohighered.org/files/uploads/transfer/documents/TAG/FINAL%20Learning%20Outcomes%20for%20Organic%20Chemistry%20TAG%20Course%20Sequence%2012-12-16.pdf>

**Grading Policies:** There will be three 50-minute exams worth 100 points each. The lowest exam of the three will be dropped. The laboratory portion of the course will be worth 100 points. There is a comprehensive final exam worth 200 points, for a course total of 500 points. Letter grades will be assigned by the following:

**A** (500 - 450 pts.); **B** (449 – 400 pts.); **C** (399 - 300 pts.); **D** (299 - 250 pts.); **F** below 250 pts.

**Exam 1** - Thursday, February 13, 2020; **Exam 2** - Thursday, March 26, 2020; **Exam 3** - Thursday, April 23, 2020. **Final Exam** - Tuesday, May 5, 2020, 5:30-7:30 PM.

**Last Day for Withdrawing with a Grade of "W"** Wednesday, March 25, 2020.

**Attendance & Make-up Policy:** Students will be held responsible for any information, material, and announcements made in lecture.

The responsibility for work missed during absence rests with the student. The instructor has no obligation to give make-up graded coursework or to review other class work missed by a student as a result of absence except under those specific conditions cited below:

1. Participation in University-sponsored activities. University-sponsored activities are those that are scheduled by academic, student affairs, and athletic units. They include, but are not limited to: intercollegiate athletic competitions activities approved by academic units, including artistic performances; R.O.T.C. functions; academic field trips; professional conferences; and special events connected with coursework.
2. Government-required activities, such as military assignments, jury duty, or court appearances.
3. Religious observances that prevent the student from attending class.
4. Death of an immediate family member, including father, mother, sister, brother, spouse, children, step-children, step-parent, parent-in-laws, sons-in-law, daughters-in-law, brothers-in-law, sisters-in-law, grandparents, foster parents, foster children, legal guardians, any person who stands in the place of a parent (loco parentis), or a domestic partner.
5. Documented personal illness.

**Incomplete Grade:** An incomplete grade of **I** may be given to a student who has been doing satisfactory work in a course but, for reasons beyond the control of the student and deemed justifiable by the instructor, had not completed all requirements for a course when grades were submitted.

<https://catalog.yzu.edu/undergraduate/general-information/academic-policies-procedures/grading-system/>

**Laboratory, CHEM 3719L:** The laboratory schedule will be passed out during the first scheduled lab meeting.

**Recitation Sections, CHEM 3719R:** There are recitation sections for CHEM 3719. These sections are graded separately from the class. The purpose of the recitation section is discussion of CHEM 3719 material and approaches to problem solving. The Recitation Sections are required for chemistry majors, although, anyone is welcome to register for them.

**Honors contracts: Option 1 – Contract Option Available** Honors students may contract this course for honors credit. Notify your instructor of your interest to discuss options, complete required paperwork, and submit to instructor by the semester deadline.

**Mandatory Statement of Non-Discrimination from the University:**

Youngstown State University does not discriminate on the basis of race, color, national origin, sex, sexual orientation, gender identity and/or expression, disability, age, religion or veteran/military status in its programs or activities. Please visit [www.yzu.edu/ada-accessibility](http://www.yzu.edu/ada-accessibility) for contact information for persons designated to handle questions about this policy.”

**Statement for students with disabilities:**

In accordance with University procedures, if you have a documented disability and require accommodations to obtain equal access in this course; please contact me privately to discuss your specific needs. You must be registered with the Center for Student Progress Disability Services, located at located at Kilcawley Center – RM 2082, and provide a letter of accommodation to coordinate reasonable accommodations. You can reach CSP Disability Services at 330-941-1372.

**Academic Integrity:**

As outlined in The Student Code of Conduct, all forms of academic dishonesty are prohibited at Youngstown State. This includes plagiarism, the unauthorized use of tools or notes in taking tests or completing assignments, fabrication of data or information used for an assignment, working with others without permission from the instructor, and more. A student who is believed to have violated the academic integrity policy will meet with the instructor to discuss the allegations. The student may accept responsibility for the violation and any sanctions selected by the instructor, or they have the right to ask for a hearing before a hearing panel. The full Academic Integrity policy can be found in Article V of The Student Code of Conduct, while further information on University procedures for alleged academic integrity violations can be found in Article V.