MISSISSIPPI COLLEGE
A CHRISTIAN UNIVERSITY

Organic Chemistry I

CHE 303-A | Fall 2025
Total Credit Hours: 3 hrs
Classroom: MCC 402
Meeting time: MWF 8:00-8:50 a.m.

Instructor

Dr. Trent Selby
Associate Professor
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Contact: Email
Office Location: Hederman Science Building 407 (Phone: (601) 925-7665)
Office Hours: MWF 10:00-11:00; TR 9:30-11:00; or by appointment

Course Description

This course includes a study of the fundamental types of organic compounds, their structure, nomenclature, classification, synthesis, typical reactions, and reaction mechanisms.

Rationale for Course

This course will provide a fundamental understanding of organic chemical compounds and principles and how they are involved in everyday life as well as in advanced chemical studies, biochemistry, and medicine on a molecular level.

Learning Objectives

The objectives of this course are to provide the student with the necessary knowledge and experience to be able to:

1. understand structural theory as it relates to organic compounds.
2. relate structure and nomenclature of compounds.
3. predict shapes of molecules, physical properties, and chemical properties of compounds when given the formulas of compounds.
4. visualize the three-dimensional structure of molecules and relate it to stereochemistry.
5. predict the type of mechanism involved from the nature of the reactants and reaction conditions.
6. understand the mechanism and stereochemistry of organic reactions.
7. relate the study of organic chemistry to biochemistry, medicine, and environmental studies.

Prerequisites

Prerequisite: Passing grade in Chemistry 141 and Chemistry 142
Corequisite: CHE 313 or instructor's consent. Students must either be taking CHE 313 or already have credit for it.

Instructional Materials

(required) "Organic Chemistry," 12th Ed., Solomons, Fryhle, & Snyder (Wiley)
ISBN 978-1-118-87576-6 (hardback); 978-1-119-07725-1 (binder ready); 978-1-119-23364-0 (E-text).

(optional) "Study Guide and Solutions Manual for Organic Chemistry" 12th Ed. T. W. Graham Solomons (Wiley). ISBN 978-1-119-07732-9 (paperback)

Methods of Instruction

Classes will consist primarily of lecture and problem solving. The text will be followed as far as the general topics, but current material, especially relating to biochemical and medical aspects, will be added from other sources. Required attendance either in-person or virtually via Zoom (Meeting ID: 975 881 1142 Password: organic).

Methods of Evaluation

There will be four hourly exams given and a comprehensive final exam.

MC Syllabus Statement

The MC Syllabus contains all policies and procedures that are applicable to every course offered by Mississippi College, both on campus and online. The policies in the MC Syllabus describe the official policies of the University as they relate to instruction and will take precedence over those found elsewhere. It is the student's responsibility to read and be familiar with every policy. The MC Syllabus may be accessed at any time on the MC website at the following: https://www.mc.edu/provost/mcsyllabus.

Grading Policy

Exams : (tentative exam dates):

Exam 1 (100 pts): **Monday, September 8**
Exam 2 (100 pts): **Monday, September 29**
Exam 3 (100 pts): **Monday, October 27**
Exam 4 (100 pts): **Monday, December 1**
Comprehensive Final Exam (200 pts): **Wed., December 10 (8:00 a.m.)**

The last day to drop a class without receiving a grade is Friday October 24, 2025.

There will be four hourly exams given. In determining your final grade for this course, the lowest hourly exam will be dropped. If you are unable to take one of the scheduled hourly exams for any reason, this will count as the dropped exam. There will be no make-up exams or incompletes (I) given for this course. The final is a comprehensive exam that will be given during the normal class period (8:00-9:40 a.m.).

Course Grades

		A = 448 points
Three best hourly exams	= 300 pts.	B = 398 points
Final Exam	= 200 pts.	C = 348 points
Maximum possible points	= 500 pts.	D = 298 points

(a grading curve may be used, at my discretion, to achieve a fair distribution of grades).

My goals are to (1) meet the course objectives and (2) ensure fairness. Accordingly, please do not contact the instructor at the end of the course to request an extra assignment, bonus opportunity, or grade change for any reason except an error in the calculation of the final grade. Grade appeals should follow the process outlined in MC Policy 4.20.]

Academic Integrity: Mississippi College students are expected to be completely honest in all aspects of the course. Dishonesty, such as cheating or plagiarism, will not be tolerated and will be dealt with according to the stated policies of the university. For details, see the current *Mississippi College Undergraduate Catalog*, the *Tomahawk*, and Policy 2.19.

Additional Course Policies

Your attendance at all class meetings is expected. Please refer to the *Mississippi College Undergraduate Bulletin* or to the *Mississippi College Graduate Catalog* for a discussion of the university's attendance policy. If a regular class meeting is missed, it is the student's responsibility to obtain any assignments or instructions that were given by the instructor. Missing a class is **not** an excuse for not preparing for the next class meeting or not having an assignment ready on time.

Students with disabilities needing accommodations should contact Student Accessibility Services, Nelson Hall, basement, Telephone: 601.925.3852 or email: accessibility@mc.edu. Additional information regarding policy and procedures can be found on the Mississippi College Website at https://www.mc.edu/offices/accessibility-services/

Best Practices

A. Practice. Work the homework problems given below and the old practice exams on Canvas.

B. Student Alert System

Mississippi College has adopted the practice of finding students early in the semester who may be exhibiting behaviors that could ultimately have a negative impact on their academic progress. These behaviors are often called "red flag" behaviors and include, but are not limited to, excessive absences, poor test grades, and lack of class participation or evidence of non-engagement. Identifying these behaviors early gives the instructor the opportunity to raise the "red flag" on behalf of a particular student so that the student can take the appropriate action to redirect his/her progress. The system alerts the student, the student's advisor, and the Office of Student Success.

Disclaimer

The instructor reserves the right to modify the schedule proposed in the syllabus as necessary. Modifications will be provided in writing.

Course Outline / Schedule

Chapter 1 Bonding and Molecular Structure
Skip Sections: 1.9; 1.10; 1.11
Homework problems: 5-12, 14, 15, 17- 24, 30, 31, 32, 35-41, 50

Chapter 2 Functional Groups, Intermolecular Forces, and Infrared (IR) Spectroscopy
Skip Sections: 2.2A, 2.13 (all), 2.14, 2.15, 2.16 (***these sections will be covered in lab***)
Homework problems: 2, 4, 6, 8, 9, 10, 12, 19, 21- 24, 29-37, 43

Chapter 3 Acids and Bases
Skip Sections: 3.8; 3.9; 3.13; 3.16
Homework problems: 1, 2, 3, 4, 7, 9, 10, 14, 15, 18a,b,e, 19-28, 32, 33, 35, 36, 38

Chapter 4 Nomenclature and Conformations of Alkanes and Cycloalkanes
Skip Sections: 4.7; 4.11A; 4.15; 4.18
Homework problems: 1, 2, 3, 6, 8, 9, 10, 12, 13, 15-21, 23, 24, 29, 36, 46a,b

Chapter 5 Stereochemistry
Skip Sections: 5.5; 5.10; 5.11; 5.16; 5.17; 5.18
Homework problems: 1-4, 6-13, 20, 22, 24, 26, 27, 33, 35, 38, 40, 42

Chapter 6 Nucleophilic Reactions: S_N1, S_N2, E1 and E2 reactions of alkyl halides
Skip Sections: 6.1A
Homework problems: 1, 2, 3, 5, 7, 8, 18-24, 26, 27, 30, 35

Chapter 7 Alkenes and Alkynes I: Properties and Synthesis.
Skip Sections: 7.3A; 7.10C; 7.18 (all)
Homework problems: 1, 2, 4, 6, 10, 11, 15, 17, 19, 22, 28, 30, 35, 37-39, 45-48, 54a-c

Chapter 8 Alkenes and Alkynes II: Addition Reactions
Skip Sections: none
Homework problems: 1, 2, 3, 5a, 8, 9, 15, 21, 22, 26-29, 31-33, 35, 37

Chapter 9 Nuclear Magnetic Resonance and Mass Spectroscopy
This chapter will be covered in Organic II Lab

Chapter 10 Radical Reactions
Skip Sections: 10.7; 10.12
Homework problems: 1, 12, 16, 18, 20, 21, 29, 30

Chapter 11 Alcohols and Ethers
Skip Sections: 11.2; 11.11D; 11.11E; 11.14A; 11.16
Homework problems: 3, 4, 6, 11, 13, 16-20, 25, 26, 32, 39a-d, 40, 41, 44-46