

Chemistry 302
Organic Chemistry II
(Section 01)
Spring 2023
12:30 – 1:20 MWF Sims 105

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|---------------|--|---------|-----------|
| Instructor: | Dr. Aaron M. Hartel | Phone: | 323-4942 |
| Email: | hartela@winthrop.edu | Office: | 314B Sims |
| Office Hours: | MW 11:00 a.m. – 12:00 noon | | |

Description:

CHEM 302 continues the concepts of organic chemistry. Students will demonstrate significant problem-solving skills directed at organic chemistry and synthesis.

Objectives:

The major objectives of this 3-credit course are to:

1. Understand molecular structure
2. Demonstrate how structure determines reactivity
3. Learn organic reactions and understand the basic mechanistic principles of reaction
4. Apply reactions to organic synthesis
5. Develop significant problem solving ability

Course Materials:

Text - None

Models - An organic molecular model set is recommended

** Other materials (Videos, Problem Sets, etc.) are accessible via Blackboard **

Attendance:

Attendance will not be recorded.

Withdrawals:

Any student who withdraws from CHEM 302 must also withdraw from CHEM 304. As per university policy, a student who withdraws after the withdrawal deadline (March 21) will receive a grade of "F" if failing the course at that time.

Changes to Syllabus:

I reserve the right to update and edit this syllabus as necessary, including assignments, the calendar, and policies. You will be notified immediately of any such changes.

Copyright Notice:

The materials in this course are only for the use of students enrolled and for purposes associated with this course. These materials may not be further disseminated.

Expected Schedule

| Week Of | Topic | Problem Set |
|---------------------|--------------------------------------|-------------------|
| January 09 | Radicals | 1 |
| January 16 | Organometallics | 2 |
| January 23* | EXAM 1 | 1-2 |
| January 23 | Aromaticity | 3 |
| January 30 | Electrophilic Aromatic Substitutions | 3 |
| February 06 | Substituted Benzenes | 4 |
| February 13* | EXAM 2 | 3-4 |
| February 13 | Aldehydes and Ketones | 5 |
| February 20 | Aldehydes and Ketones | 5 |
| February 27 | Carboxylic Acid Derivatives | 6 |
| March 06* | EXAM 3 | 5-6 |
| March 06 | Enolates | 7 |
| March 13 | ---- SPRING BREAK ---- | --- |
| March 20 | Enolates | 7 |
| March 27* | EXAM 4 | 7 |
| March 27 | Oxidations and Reductions | 8 |
| April 07 | Synthesis | 9 |
| April 10* | EXAM 5 | 8-9 |
| April 10 | Bicycles and Heterocycles | 10 |
| April 17 | Pericyclic Reactions | 11 |
| April 24 | Catch-up/Review | |
| May 02* | FINAL EXAM (11:30 a.m.) | Cumulative |

* Exam Date

Exams and Final Grade:

There are five in-class exams (15% of the course grade each) and a cumulative final exam (25% of the course grade) scheduled at the times above. Make-ups are given only in extreme circumstances. The final grade for the class will be based on these exams. Expect the average score in the course to be around 65%. The +/- system will be used for "A", "B" and "C" grades. Roughly, a "+" will be awarded to scores in the top third of each grade range and a "-" to those in the lower third. Grades are typically assigned loosely following the scheme below.

Scores higher than 82% have been awarded "A's"
 Scores between 70% and 81% have been awarded "B's"
 Scores between 60% and 69% have been awarded "C's"
 Scores between 50% and 59 have been awarded "D's"
 Scores below 50% have been awarded "F's"

Re-grades:

A re-grade must be submitted within one week after the exam is returned. You must be specific in what is to be re-graded and have justification as to why the grading was incorrect.

Student Code of Conduct:

The Winthrop University Student Handbook States:

"A fundamental tenet of all institutions of higher learning is academic honesty. Academic work must depend upon respect for and acknowledgment of the research and ideas of others. Misrepresentation of someone else's work as one's own is a most serious offense in any academic setting. Academic misconduct in any form cannot be condoned."

<https://www.winthrop.edu/academicintegrity>

The Winthrop university Student Conduct Code States:

"Responsibility for good conduct rests with students as adult individuals."

[Online Student Handbook](#)

Accessibility:

"Winthrop University is committed to providing accessible learning experiences and equal access to education for all students. The syllabus is available in alternate formats upon request."

"If you are a student with a disability (including mental health concerns, chronic or temporary medical conditions, learning disabilities, etc.) and you anticipate or experience academic barriers due to the condition, please contact The Office of Accessibility (OA) for information on accommodations, registration, and procedures. After receiving approval for accommodations through OA, please make arrangements with me as soon as possible to discuss your accommodations so that they may be implemented in a timely manner."

OA contact information:

Email: accessibility@winthrop.edu

Phone: 803-323-3290

Office: 307 Bancroft Hall Annex

Helpful Tips

- Do the homework problem sets. We learn best doing, not by reading. Do the problems one-at-a-time, checking each answer as you go. If your answer is right, move on. If it's not, re-read the text/notes and try again.
- Write down everything you do. This may seem subtle, but it is very important. Organic chemistry is a very visual and detailed subject. Most homework or exam questions will be answered by drawing structures, not words. Get used to drawing things quickly and properly.
- Don't fall behind. Everything in this course builds on what we covered the previous day, week and month. Not understanding what we cover today makes learning what we cover tomorrow that much harder and more time-consuming.
- There will be a "self evaluation" posted online a few days before each exam. Use them to gauge what you have learned and not learned. Then go back and study the material on the parts you haven't mastered.
- If you're having difficulty understanding something, get help. Find me, hire a tutor, go to the free tutoring in the Sims study lounge, ask the brainy guy/gal down the hall. Do whatever it takes.

Addendum

Winthrop COVID-19 Statement:

The health and safety of the campus community is Winthrop's top priority. As socially responsible members of this community, everyone is expected to engage in daily health self-monitoring and to stay home (residence hall or off-campus housing) from on-campus class, work, or activities if they begin experiencing any COVID-related symptoms. Please do not attend class if you have a fever or any signs of the COVID virus, do not attend class if your roommate or someone you have close contact with acquires the virus, and be respectful of others' desire to remain COVID-free. Masking on campus remains optional but strongly encouraged, especially in indoor settings around others. Use the Patient Portal COVID-19 form to report illness or exposure and upload the positive test, if relevant. Students who violate WU guidelines will be asked to comply. Continued failure to comply may result in referral to the Dean of Students Office as a student conduct violation.

Winthrop Policy on COVID-Related Absence:

Students should contact Health Services regarding a positive test, close contact, or enhanced COVID-like symptoms. Any student who has either tested positive, has COVID-like symptoms, or has close contact with someone who has COVID, must contact Health Services. Students should log in to the Patient Portal to complete a C19 form and upload the positive test, if relevant. Health Services will communicate with the student on what steps to take next, and if need be, the Dean of Students Office will receive absence verification for required isolation and quarantine. Students who verify their absences through the Dean of Students Office often minimize any academic impact caused by missed class time. Students retain a responsibility to communicate with instructors regarding missed work, and complete assignments in a timely manner as they are able. Regular communication with faculty is expected so that student progress in the course is not negatively impacted. Health Services will only provide dates of absence, not medical information. Please note, residential students who test positive must follow their personal COVID Quarantine and Isolation Plan.