

Chemistry 310
Essentials of Organic Chemistry
(Section 01)
Fall 2019
9:30 – 10:45 a.m. MW (Owens G01)

| | | | |
|---------------|--|---------|-----------|
| Instructor: | Dr. Aaron M. Hartel | Phone: | 323-4942 |
| Email: | hartela@winthrop.edu | Office: | 314B Sims |
| Office Hours: | MW 11:00-12:00 or by appointment. | | |

Course Web: chem.winthrop.edu

Textbook: None

Software: *Visualizing Organic Chemistry* (Windows 10, macOS, iPad) is recommended

Models: An organic molecular model set is highly recommended

Goals and 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 mechanistic principles of reaction

Attendance:

Attendance is optional, recommended and will not be recorded.

Ethics:

As noted in the Student Conduct Code: "Responsibility for good conduct rests with students as adult individuals." The policy on student academic misconduct is outlined in the "Student Conduct Code Academic Misconduct Policy" in the online *Student Handbook*.

Exams and Final Grade:

There are five in-class exams (15% of the course grade each) and a cumulative final exam (25% of 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.

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Expected Schedule:

| <u>Week Of</u> | <u>Topic</u> | <u>Problem Set</u> |
|---------------------|---|--------------------|
| | *Molecular Structure* | |
| August 19 | Atomic Theory and Bonding | 1 |
| August 26 | Alkanes & Functional Groups | 2 |
| September 2 | Conformations | 3 |
| September 19 | Stereochemistry | 3 |
| September 16 | EXAM 1 | 1-3 |
| | *The C-H and X-H Bond* | |
| September 16 | Acids & Bases | 4 |
| September 23 | Oxidations and Reductions, Radicals | 5-6 |
| September 30 | EXAM 2 | 4-6 |
| | *The C-C π-Bond* | |
| September 30 | Alkenes and Alkynes | 7 |
| October 7 | Electrophilic Additions, Resonance | 8 |
| October 14 | Additions to Multiple π -bonds | 9 |
| October 21 | EXAM 3 | 7-9 |
| | *The C-X Bond* | |
| October 21 | Alkyl Halides, Alcohols, Ethers & Amines | 10 |
| October 28 | Nucleophilic Substitutions, Eliminations | 11 |
| November 04 | EXAM 4 | 10-11 |
| | *The Aromatic C-C π-Bond* | |
| November 4 | Aromatics, Aromaticity | 12 |
| November 11 | Electrophilic Aromatic Substitutions | 12 |
| November 18 | EXAM 5 | 12 |
| | *The C-O π-Bond* | |
| November 25 | Aldehydes & Ketones | 13 |
| December 2 | Carboxylic Acid Derivatives | 14 |
| December 9 | FINAL EXAM 11:30 a.m. | Cumulative |

Withdrawals:

As per university policy, any student who withdraws after October 18 will receive a grade of "F" if failing the course at that time.

Students with Disabilities:

If you have a disability and require specific accommodations to complete this course, contact Services for Students with Disabilities, at 323-3290.

Changes to Syllabus:

Any changes to the syllabus will be announced in class or via email.

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Helpful Tips

- 1) 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.
- 2) 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.
- 3) 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.
- 4) 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.
- 5) 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.