

Chemistry 301-001: Organic Chemistry

Dr. T. Christian Grattan (Office Sims 301B)

Spring 2017 Winthrop University

MWF 9:30-10:45 PM (SIMS 105)

4 Credit hours

Textbooks: Organic Chemistry, 6th ed., Loudon, Parise **REQUIRED**
Molecular Model Kit, ask Dr. Grattan **RECOMMENDED**

Learning goals and outcomes: My goal for this course is to clearly explain the fundamental concepts of organic chemistry and how they are incorporated into chemical reactions and mechanisms in accordance with departmental objectives. The students should be able to:

1. Become proficient in organic nomenclature from structure to name and name to structure for the various derivatives emphasized in the course (alkanes, alkenes, etc)
2. Understand bonding and three-dimensional shape of organic molecules for a better understanding of energetic stability and preferred reactivity.
3. Identify functional group conversion or transformation given any two of the following: starting material, reagents and products for various chemical reactions and the energy that drives each process.
4. Become proficient in mechanistic organic chemistry to explain how the reactions are converted to products with emphasis on electron movement arrows, intermediate charge and resonance involvement.
5. Aromatic compound characteristics and reactivity with emphasis on energetic stability, resonance role in reactions and the various options available to aromatic substitution chemistry.
6. Evaluate the kinetic and thermodynamic differences in a chemical reaction.
7. Examine the physical properties of molecules and discuss the reasoning behind the differences.
8. Develop and design multi-step synthetic processes to perform organic functional group interconversions.
9. Become proficient in interpreting organic analytical such as NMR, IR and mass spectra.

Office Hours: M 11:00 AM-12:00 PM, T 10:00-11:00 AM, W 11:00-12:00 PM
or by appointment (323-4927 or grattanc@winthrop.edu)

I will also be accessible to answer questions on email. You will find that this course is different than any other courses you have taken in college. It is therefore important to stay on top of the material and get your questions answered as soon as possible. Please take advantage of my office hours or email to resolve these problems.

Attendance: Due to the unique nature of this course, each and every class meeting is important to better understand the material in the text. The students are responsible for all assignments for the course regardless of absence.

Homework and Assignments: Problems will be assigned from the text for each chapter, but will be graded for completion. I will also provide a problem set relating to each chapter that must be turned in on the assigned date. These assignments will be graded and a 5% penalty/day begins at the end of the class time when it is due. All of these problems will be used to construct chapter quizzes and exams. It is very important to understand the problems that are assigned and you are strongly encouraged to work and study in groups!!

Grading System: ◆◆◆

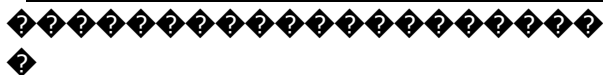
4 In-class Exams (100 points each)	400 points
Quizzes (Average of 8 best)	100 points
Homework	100 points
Final Exam	<u>200 points</u>

Grading Scale:

Percentage	Grade	Percentage	Grade
93-100%	A	77-79%	C+
90-93%	A-	70-76%	C
87-89%	B+	60-69%	D
83-86%	B	<60%	F
80-82%	B-		

Exams: This course will consist of four in-class exams and one cumulative final exam given on the dates provided. Exam problems will be similar to the assigned problems. Each exam is limited to the allotted class time and the final exam will be limited to two and one-half hours. Make up exams will be given *only* with a valid excuse such as a severe personal or family crisis.

Exam 1	Monday February 6	9:30-10:50 AM
Exam 2	Monday March 6	9:30-10:50 AM
Exam 3	Monday April 3	9:30-10:50 AM
Exam 4	Monday April 24	9:30-10:50 AM
Final Exam	Monday May 1	11:30 - 2:00 PM



S/U and Withdrawal Policy: According to University policy, Friday January 13, 2017 is the last day to drop this course. Wednesday, March 8, 2017 is the last day to withdraw from a spring semester course or to declare S/U for the course.

Student code of conduct: As noted in the Student Code of Conduct: Responsibility for good conduct rests with students as adult individuals. Violations of the code of conduct found in the Student Conduct Code Academic Misconduct Policy will be dealt with as described in the policy.






Students with Disabilities Policy: Winthrop University is committed to providing access to education. If you have a condition which may adversely impact your ability to access academics and/or campus life, and you require specific accommodations to complete this course, contact the Office of Accessibility (OA) at 803-323-3290, or, accessibility@winthrop.edu. Please inform me as early as possible, once you have your official notice of accommodations from the Office of Accessibility.

Cheating: Infractions of academic discipline are dealt with in accordance with the student Academic Misconduct Policy which is in the Student Conduct Code in the Student Handbook. Academic misconduct includes, but is not limited to, providing or receiving assistance in a manner not authorized by the professor in the creation of work to be submitted for academic evaluation including papers, projects, and examinations; presenting, as one's own, the ideas or words of another for academic evaluation without proper acknowledgment; doing unauthorized academic work for which another person will receive credit or be evaluated; and presenting the same or substantially the same papers or projects in two or more courses without the explicit permission of the professors involved. In addition, academic misconduct involves attempting to influence one's academic evaluation by means other than academic achievement or merit.

Academic Success Center: Winthrop's Academic Success Center is a free resource for all undergraduate students seeking to perform their best academically. The ASC offers a variety of personalized and structured resources that help students achieve academic excellence, such as tutoring, academic skill development (test taking strategies, time management counseling, and study techniques), group and individual study spaces, and academic coaching. The ASC is located on the first floor of Dinkins, Suite 106. Please contact the ASC at 803-323-3929 or success@winthrop.edu. For more information on ASC services, please visit www.winthrop.edu/success.

Winthrop University's Office of Nationally Competitive Awards (ONCA) identifies and assists highly motivated and talented students to apply for nationally and internationally competitive awards, scholarships, fellowships, and unique opportunities both at home and abroad. ONCA gathers and disseminates award information and deadlines across the campus community, and serves as a resource for students, faculty, and staff throughout the nationally competitive award nomination and application process. ONCA is located in Dinkins 222B. Please fill out an online information form at the bottom of the ONCA webpage www.winthrop.edu/onca and email onca@winthrop.edu for more information.

Additional Help: You may access additional tutorials and internet web resources at:

Textbook <http://www.roberts-publishers.com/authors/loudon-marc/organic-chemistry-sixth-edition.html>     
IUPAC rules for nomenclature <http://www.cem.msu.edu/~reusch/VirtualText/nomen1.htm>

Practice writing mechanisms <http://pages.towson.edu/ladon/enrich/Mechwrit.htm>

Org. rxn quizzes/summaries <http://pages.towson.edu/ladon/orgrxs/reactsum.htm>

Practice with synthesis problems
<http://www2.chemistry.msu.edu/faculty/reusch/VirtTxtJml/Questions/problems.htm>

NMR/IR/Mass spec problems
<http://www.nd.edu/~smithgrp/structure/workbook.html>
<http://www.chem.ucla.edu/~webspectra/>

CHEM 301 Class Lecture/Exam Schedule*

DATE	MATERIAL	DATE	MATERIAL
Jan. 9	Intro., Ch.1	March 6	Exam 2 (4,5,6)
Jan. 11	Ch. 1	March 8	Ch. 15
Jan. 13	Ch. 1, Ch. 3	March 10	Quiz (Ch. 14)
Jan. 16	MLK Jr Day-OFF	March 13	Spring Break
Jan. 18	Ch. 3	March 15	Spring Break
Jan. 20	Ch. 3, Ch. 2	March 17	Spring Break
Jan. 23	Quiz (Ch. 1,3), Ch. 2	March 20	Ch. 15, Ch. 9
Jan. 25	Ch. 2	March 22	Ch. 9
Jan. 27	Ch. 2, Ch. 7	March 24	Quiz (Ch. 15), Ch. 9, MS
Jan. 30	Ch. 7, Ch. 8	March 27	Ch. 10
Feb. 1	Quiz (Ch. 2,7,8), Review	March 29	Quiz (Ch. 9), Ch. 10
Feb. 3	Ch. 4	March 31	Review
Feb. 6	Exam 1 (1,2,3,7,8)	April 3	Exam 3 (9,14,15)
Feb. 8	Ch. 4	April 5	Ch. 10, Ch. 11
Feb. 10	◆Ch. 5	April 7	Ch. 11
Feb. 13	Quiz (Ch. 4), Ch. 5	April 10	Ch. 12
Feb. 15	Ch. 5	April 12	Quiz (Ch. 10,11), Ch. 12
Feb. 17	Ch. 5, Ch. 6	April 14	Ch. 13
Feb. 20	Quiz (Ch. 5)	April 17	Ch. 13
Feb. 22	Ch. 6	April 19	Quiz (Ch. 13) Review
Feb. 24	Ch. 6	April 21	Review
Feb. 27	Ch. 14	April 24	Exam 4 (10,11,12,13)
March 1	Quiz (Ch. 6), Review	May 1	Final exam 11:30-2:00 PM
March 3	Ch. 14		

*This is a tentative schedule for lecture and exams (other than the Final Exam). Any changes to this schedule will be announced in class and through email.