

**Chemistry 331**  
Spring 2016  
General Organic Chemistry II

**Instructor:** John G. Kodet

Contact Information:           Office: Faraday Hall 335  
  Office Phone: 815-753-6841  
  Email: [jkodet@niu.edu](mailto:jkodet@niu.edu)

Office Hours: MW 2-3 pm, TR, 11-noon and by appointment

**Lecture:** MWF 1:00-1:50 pm; Faraday Hall 143

**Required Text**

- 1) Carey, F.A. and Giuliano, R.M. Organic Chemistry, 9<sup>th</sup> Edition; McGraw-Hill, 2014 with connect code

**Recommended Materials:**

- 2) Carey, F.A. and Giuliano, R.M. Solutions Manual for Organic Chemistry, 9<sup>th</sup> Edition, McGraw-Hill, 2014
- 3) Molecular Visions Organic Chemistry Molecular Modeling Kit

**On-Line Course Information:** Blackboard (<https://webcourses.niu.edu>)

**Class Format:**

The course will be comprised of lectures, in class exams, in class quizzes and online learning tools and assessments. It is important that you attend class as quizzes will be given out without notice. If you miss a class, it is your responsibility to obtain lecture notes and any assigned work. You should check Blackboard each day for postings. Suggested homework from the text will be given for each chapter. Although this will not be graded it is strongly encouraged to complete it so that you become familiar with the content of the course for exams.

**Exams and Grades:**

The course grade will be assigned base on your point totals for the exams, online homework (Learnsmart) administered through Connect, online quizzes and in-class quizzes. One exam will be dropped for the class and because of this no make-up exams will be given, except for some cases that are approved prior to the exam. If you miss an exam a score of 0 will be entered for that exam. The online Learnsmart will be administered through Connect that can be accessed through NIU Blackboard. More points from in-class quizzes will be available than what is given in the syllabus. Extra credit will be available from the online quizzes. Understanding the material encountered latter in the course will require application of concepts learned previously so the

exams can be considered comprehensive, however emphasis will be given to material covered since the last exam. Exams are closed book and closed note. Textbooks, notes, electronic devices (including cell phones and laptop computers) are not permitted in the classroom during the exam, non-programmable calculators and model kits will be permitted on exams that contain questions in which they would be useful. Exams should be written using **NON-ERASABLE** black or blue ink. Exams on which white-out was used, are written in red or erasable ink, or written in pencil will not be regraded.

### Final Exam

The 200 point final exam will be comprehensive it will be given on **Wednesday May 11, Noon-1:50 p.m.**

### Point Total

Exams (Best 3 of 4 at 100 points each)	300 points
Learnsmart (100 points total)	100 points
In-class quizzes (50 points total)	50 points
Final Exam	<u>200 points</u>
Total	650 points

### Approximate Grading Scale:

<b>A</b> (100-87%)	<b>A-</b> (86-85%)	<b>B+</b> (84-82%)
<b>B</b> (81-73%)	<b>B-</b> (72-70%)	<b>C+</b> (69-67%)
<b>C</b> (66-55%)	<b>D</b> (54-45%)	<b>F</b> (44-0 %)

The grading scale likely will be adjusted lower to ensure a desired distribution of scores but it will not be raised.

### Requests for Regrades

Submissions for regrade will be accepted for one week after the day the exams are distributed in class. The entire test will be regraded, unless it is a score tabulation error. The regraded exams will be returned after the end of the next class period. If the exam pages are altered in any way, the request for regrade will be denied.

### Important Dates:

Consult your academic adviser and the NUI website.

Sunday January 24	Last day to drop course via self-service in MyNIU
Friday, January 29	Last day to drop/add course with approval of major college
Friday, February 5	Last day to change course from credit to audit or audit to credit
Friday, March 11	Last day to withdraw from course

## Optional Review Sessions

I will hold an optional study session to review the material and work through problems before each of the exams. The time and location will be announced in class and on blackboard.

## Tentative Schedule

<u>Lecture Dates</u>	<u>Chapters</u>
1/20 – 2/3	Introduction, Chapters 12 and 13
2/12	Exam 1
2/5 – 2/29	Chapters 14, 15 and 16
3/4	Exam 2
3/7 – 4/1	Chapters 17, 18, and 19
4/8	Exam 3
4/4 – 4/20	Chapters 20 and 21
4/29	Exam 4
4-22 – 5/2	Selective Topics from Chapter 22- 27
5/11/16	Final Exam

## Study Groups:

It is encouraged to study in groups. This will make the chemistry experience more enjoyable and you will learn the content better. Explaining to someone else the material will be a great benefit in your own learning as it will be provide different insights on how to tackle the material.

## Outcome Expectations Statement:

After this course, students should be able to:

- Understand aromaticity, know the conditions and mechanisms for functionalizing benzenes using electrophilic aromatic substitution, and nucleophilic aromatic substitution.
- Understand how substituents on the benzene ring affects its reactivity, and use this knowledge to predict products of reactions and synthesize desired products.

- Understand the basic spectroscopic techniques used to determine functional groups and molecular structure.
- Understand the role organometallic compound in organic chemistry and some of the major organometallic reactions in synthesis.
- Understand native reactivity of ketones and aldehydes and know conditions for and mechanisms of a variety of addition reactions to ketones, aldehydes, and  $\alpha,\beta$ -unsaturated carbonyl compounds and use this knowledge to predict products of reactions and synthesize desired products.
- Know conditions for and mechanisms of the interconversion of a carboxylic acids and their derivatives, including acid chlorides, anhydrides, esters, alcohols, aldehydes, ketones, amines, amides, and nitriles, and use this knowledge to predict products of reactions and synthesize desired products.
- Use enols and enolates to functionalize ketones and aldehydes in a variety of ways and use this knowledge to predict products of reactions and synthesize desired products.
- Use radical chemistry to interconvert a variety of functional groups including peroxides, and thioethers, and draw the mechanism for the various transformations.
- Understand the properties, reactivity, and synthesis of amines and their roll in organic chemistry and biological systems.
- Understand the importance of organic chemistry in biological systems by examining the structure and reactivity of molecules such as sugars, proteins, DNA/RNA, and complex natural products such as phenols, lipids, terpenes, and steroids.

**Student Code of Conduct:** <http://www.niu.edu/communitystandards/pdf/SCC.PDF>

### **Academic Dishonesty (cheating)**

Academic dishonesty includes looking at another student's exam during a testing session, allowing another student to copy your work, use of unauthorized materials such as notes, crib sheets, textbooks, prohibited electronic devices such as smart phones, cell phones, I-pads or programmable calculators that contain stored equations, formulas or text during an exam. Violation of any of these will result in assignment of a score of zero for the exam, quiz or assignment in question. **Academic dishonesty in any form will not be tolerated and may result in failure of the entire course.**

### **Notification of Services for Students with Documented Disabilities**

NIU abides by Section 504 of the Rehabilitation Act of 1973 which mandates reasonable accommodation by provide for qualified students with disabilities. If you have a disability and may require some type of instructional and/or examinations accommodation, you will need to register with the Center for Access-Ability Resources (CAAR), the designated office on campus to provide services and administer exams with accommodations for students with disabilities. The CAAR office is located on the 4<sup>th</sup> floor of the University Health Services building (815-753-1303). Accommodations are not retroactive. Please contact me early in the semester so that I can provide or facilitate in providing accommodations you may need. You must for each exam have a form filled out about 10 business days in advance to be sure to have a CAAR test time appointment.