

Organic Chemistry 223 - Fall 2011

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Lecture M/W/F 9:20 – 10:10 p.m. FH-133 (Sect 011)

Discussion Wed 11:30 – 12:20 p.m. Dumbach Hall 120 (Sect 012)
 Fri 11:30 – 12:20 p.m. Dumbach Hall 120 (Sect 013)

Office Hours Mon 10:30 a.m. – 12:00 p.m.; Wed 3:30 – 5:00 p.m.

Required Text: L.G. Wade, Jr., "Organic Chemistry" 7th Ed. ISBN 978-0-321-59231-6

Required Key: J.W. Simek, "Solutions Manual Organic Chem.", 7th Ed. ISBN 978-0-321-59871-1

Recommended: Your favorite molecular modeling kit. Here are some options. (\$ not guaranteed)

- Darling \$18.65 in LUC Bookstore with cardboard box; \$15 in stockroom
- Darling \$36.00 in LUC Bookstore with green plastic box
- Prentice Hall Molecular Model Set for Organic \$35.33 (colorful & pretty)
- Prentice-Hall Framework Molecular Models (Brumlik) \$45.80 (tubes to cut)
- HGS Fundamental Organic Set \$17.00

Extra help: *Pushing Electrons* by Daniel Weeks
The Organic Chemistry Answer by Matthew J. Hamiel

Do you have an interest in human health, prescription medicines and drugs? Organic chemistry is utilized by medicinal organic chemists for the design and construction of new molecules that are prescribed by doctors and dispensed by pharmacists to treat diseases. Organic chemistry is also the essential science for inventing new soaps and detergents, dyes, plastics, and resins, and it is also used in creating certain types of new photoreceptors for renewable solar energy.

1. *Exam Dates (subject to change):*

| | |
|------------------------------|-----------------------------------|
| Friday, September 23, 2011: | Mid-term Exam 1 |
| Friday, October 28, 2011: | Mid-term Exam 2 |
| Monday, November 21, 2011: | Mid-term Exam 3 |
| Saturday, December 17, 2011: | Final Exam, 1:00-3:00 p.m. |

2. *Exams and Grading:*

There are three 50-minute mid-term exams and one 2-hour final exam. The lowest of the three mid-term exams will be dropped. If you miss an hourly exam, that is the exam that will be dropped. No make-up mid-term exams will be given under any circumstances. The final exam is cumulative and cannot be dropped.

| | | |
|---------------|-------------------|--|
| Mid-term exam | 100 points | (Best two out of three mid-term exams) |
| Mid-term exam | 100 points | |
| Final Exam | 150 points | |
| TOTAL | 350 points | |

I generally grade on a curve based on the average and the standard deviation. I will give statistics including the

mean, the median, and the standard deviation for each exam. I do not predict cutoffs, but can tell you what the cutoff was for a previous test or class.

You must bring a form of photo identification, such as your Loyola Student ID or your driver's license, with you to the exam. During exams, you will be required to leave your books, backpacks, notebooks, etc. at the front of the room. All exams are closed book and closed notes unless otherwise noted. When you are finished with your exam, please bring your completed exam to the front, and leave the room quietly without disturbing the other students.

Exams will be graded and returned to you as quickly as possible, usually by the following week. All grading questions, points of clarification, and grading errors must be brought to the instructor's attentions during office hours no later than one week after return of the exam.

3. *Homework:* Organic chemistry is a new language that is spoken in words and in structures. The best way to learn a language is to work some problems every day. Homework problems will be assigned for each chapter, but will not be collected. You must work problems in a timely manner. Past experience has shown that exam success is a direct result of working the problems in the book.

4. *Discussion:* The discussion section will be devoted to answering questions regarding homework problems. *Attendance and participation are expected.*

5. *Blackboard Materials:* Handouts given in class will be mirrored on Blackboard.

6. *Academic Honesty:* For this course, all exams are closed book and closed note. Academic dishonesty includes using notes or books during exams, looking at another student's test during the exam period, or talking during an exam. The consequence of academic dishonesty is failure of the exam, and the incident will be reported to the Chemistry Department Chair and the Office of the Dean. Additional sanctions including expulsion from the university may be imposed. The Undergraduate Handbook contains a complete description of the University policy regarding academic dishonesty.

7. *Strategies and Suggestions:*

- The best method of learning organic chemistry is to work the assigned problems and write out the answers. *Then* check your answers versus the Answer Key.
- Study at least 10 hours per week and maintain a steady pace of studying. Organic chemistry continually builds, like a language, so studying some every day is most effective.
- Skim the current chapter before the corresponding lecture, so that you will be aware of the topics to be covered.

8. *Office Hours:* My office door will be open per the times listed. Please use this time to if you have extra questions regarding this course. If you are unavailable to meet at the listed times, please feel free to email me with any questions. However, if you email me at night (after 6:00 p.m.), on weekends, or during holiday breaks I will respond to your email within 12 hours.

9. *Students with Disabilities Policy:* Eligibility for services is determined on an individual basis based on documented need. Self-disclosure and the submission of documentation can be initiated anytime during the year. However, reasonable time must be allowed before the student can expect accommodations to be in place. Self-disclosure and documentation are required only if students plan to request accommodations. Students should provide information and documentation at a reasonably early date to allow time for the development and arrangement of appropriate accommodations. In some cases, several weeks' advance arrangement is needed. Accommodations cannot be retroactive. Accommodations begin only after documentation is received and reasonable time for accommodation development has been allowed.

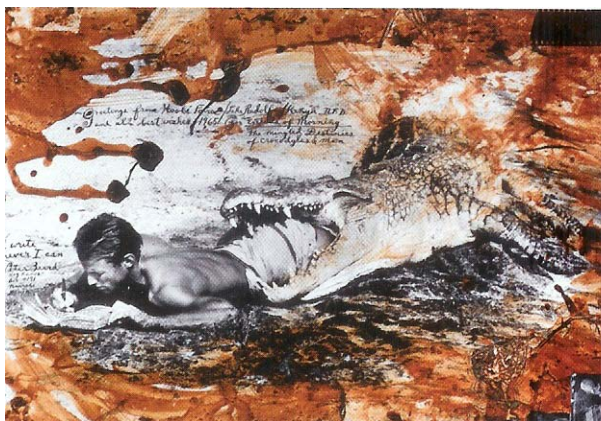
<http://www.luc.edu/sswd/index.shtml>

Organic Chemistry 223 Tentative Lecture Schedule (subject to change)

| | | |
|-------|----|--|
| 8-29 | 1 | Lewis structures & bonding |
| 8-31 | 1 | Lewis structures & bonding |
| 9-2 | 2 | Structure & properties of organic molecules |
| 9-5 | - | <i>Labor Day Holiday</i> |
| 9-7 | 2 | Structure & properties of organic molecules |
| 9-9 | 3 | Structure & stereochemistry of alkanes |
| 9-12 | 3 | Structure & stereochemistry of alkanes |
| 9-14 | 3 | Structure & stereochemistry of alkanes |
| 9-16 | 4 | Reactions & Mechanism: Free radical halogenation |
| 9-19 | 4 | Reactions & Mechanism: Free radical halogenation |
| 9-21 | 4 | Reactions & Mechanism: Free radical halogenation |
| 9-23 | -- | EXAM I (chapters 1-4) |
| 9-26 | 5 | Stereochemistry |
| 9-28 | 5 | Stereochemistry |
| 9-30 | 5 | Stereochemistry |
| 10-3 | 6 | Alkyl Halides: S _N 1, S _N 2, E1, E2 |
| 10-5 | 6 | Alkyl Halides: S _N 1, S _N 2, E1, E2 |
| 10-7 | 6 | Alkyl Halides: S _N 1, S _N 2, E1, E2 |
| 10-10 | -- | <i>Mid-Semester Break, No Class</i> |
| 10-12 | 6 | Alkyl Halides: S _N 1, S _N 2, E1, E2 |
| 10-14 | 7 | Alkenes: structure and synthesis |
| 10-17 | 7 | Alkenes: structure and synthesis |
| 10-19 | 8a | Alkenes: reactions |
| 10-21 | 8a | Alkenes: reactions |
| 10-24 | 8a | Alkenes: reactions |
| 10-26 | 8a | Alkenes: reactions |
| 10-28 | -- | EXAM II (focused on ch 5-8a, <i>cumulative</i>) |
| 10-31 | 8b | Alkenes: reactions |
| 11-2 | 8b | Alkenes: reactions |
| 11-4 | 8b | Alkenes: reactions |
| 11-7 | 9 | Alkynes |
| 11-9 | 9 | Alkynes |
| 11-11 | 10 | Alcohols: structure and synthesis |
| 11-14 | 11 | Alcohols: structure and synthesis |
| 11-16 | 11 | Alcohols: reactions |
| 11-18 | 11 | Alcohols: reactions |
| 11-21 | -- | Alcohols: reactions |
| 11-23 | -- | <i>Thanksgiving Holiday</i> |
| 11-25 | -- | <i>Thanksgiving Holiday</i> |
| 11-28 | -- | EXAM III (focused on ch 8b-11, <i>cumulative</i>) |
| 11-30 | 12 | IR and MS |
| 12-2 | 12 | IR and MS |
| 12-5 | 13 | NMR |
| 12-7 | 13 | NMR |
| 12-9 | 13 | NMR |
| 12-11 | -- | Cumulative Final Exam, FH-133 Saturday, Dec. 17, 1:00-3:00 p.m. |

Ch Assigned Problems

1. 1-11, 14-20, 23, 25, 27, 29, 31, 34-37, 40-46
2. 1-11, 13-29, 32-42, 44
3. 1-7, 9-12, 14-18, 20-21, 24-25, 27-35, 37-40, 44, 46
4. 1-15, 18-19, 21-26, 28-44, 46-50
5. 1-3, 5-10, 14-21, 23, 25-31
6. 1-7, 9-12, 14-27, 29-30, 32-53, 55-56, 66
7. 1-2, 4-6, 8-17, 20-25, 27-47
8. 1-13, 15, 17-30, 32-38, 44-47, 48a-e, 49-51, 61
9. 1-2, 4-9, 12-34
10. 1-4, 6-10, 12-20, 22-27, 29-33, 35-42, 49
11. 1-3, 5-6, 9-15, 19, 21-22, 24-26, 30-34, 36-37, 39-46, 48, 53
12. 2-9, 11-12, 14-20, 23-25
13. 2-11, 13-16, 18-20, 21b, 22-26, 29-44, 47-49
14. TBD....



Never miss an opportunity to work through
some organic chemistry problems