Chemistry 343 - Prof. Blackwell - General Course Information

Lecture Location/Schedule: Lecture 3 - Room 1361, Chemistry Building, TR 9:30-10:45 am

Lecture 2 - Room 1351, Chemistry Building, TR 1:00-2:15 pm

Textbook: "Organic Chemistry" by Marc Loudon and Jim Parise, 6th Edition. There is an accompanying Study Guide and Solutions Manual. The textbook/manual bundle is available from the University Bookstore for about $173 OR for a discounted rate directly from the publisher for $139 using the promo code BADGERS. The course will cover Chapters 1-11, 14, and 15 in Loudon. Note, you can easily use an earlier edition of the textbook if you want (if purchased used, etc.); the content and associated problems are very similar from edition to edition.

Problem sets: There are 13 required problem sets (one for each Chapter) for this course. They will be completed and submitted online using Sapling Learning. You should have a Sapling "Bundle" code if you purchased the 6th Ed. textbook bundle at the bookstore. If you did not purchase the bundle, sign-up with Sapling for one term costs ~$36 (two terms = ~$60). Each problem set will be ~15 problems in length. Many of these problems are based on those in the textbook. You should complete one problem set each week; the due dates for each set will be ~one week after the completion of the corresponding Chapter in class, with the final problem set due on the day of the Lec 2 Final exam (see separate listing on this course site). You are encouraged to complete these problems sets quite a bit prior to their due date. Review problem sets (ungraded) will be available before exams. See the "Required Online Problem Sets" section on this course page for more information.

Discussion Sections: All students enrolled in Chem 343 lecture must also enroll in a discussion section that meets once per week. Attendance will be taken. Discussion sections, led by experienced graduate student teaching assistants, are largely designed as interactive problem solving sessions where students work on problems with guidance from the teaching assistant and peers. There also will be ample time for student questions.

Quizzes: Four short, unannounced quizzes will be given in the weekly discussion sections throughout the semester.

Exams: Three mid-term exams will be given in-class during our scheduled class period (75 min, closed book/notes). The mid-term exam dates are: Tues Feb 16, Tues Mar 15, and Thurs Apr 21.

Final exams are scheduled for Lecture 3 on Mon May 9 (7:45-9:45 am) and for Lecture 2 on Thurs May 12 (5:05-7:05 pm).

Rooms for in-class exams and the final exam will be announced closer to the dates.

Molecular Models: Use of molecular models is highly recommended as an aid to understanding organic chemistry. Use of models is allowed during all quizzes and exams. There are a few different kinds of good molecular models available for purchase on campus, including the University Bookstore. The ACS Student Affiliates group sells a good set of models in the Department. They typically sell them during the first two weeks of class, outside of the main lecture halls in Chemistry. I'll let you know ASAP once the Affiliates confirm their availability at the start of term.

PLEASE NOTE: Substantiated evidence for academic misconduct in this course is means for automatic course failure.

Chapters and specific sections to be covered in Chem 343 – Spring 2016

All in "Organic Chemistry", 6th Edition, by Marc Loudon and Jim Parise.

Note, you should work all of the problems in the textbook associated with these Chapter sections (in the text and at the end of the Chapter). You do not need to turn these problems in for credit. Mastery of these problems will significantly facilitate your understanding of the course material.

Chap 1: 1.1, 1.2, 1.3, 1.4, 1.8, and 1.9

Chap 2: 2.1, 2.2, 2.3, 2.4, 2.5, and 2.8

Chap 3: 3.1, 3.2, 3.3, 3.4A–C, and 3.6

Chap 4: 4.1 (π-bonding introduced in Chap 1), 4.2, 4.4, 4.5, 4.6, 4.7, 4.8, 4.9A and B

Chap 5: 5.1, 5.2, 5.3 5.4, 5.5, 5.6, and 5.7

Chap 6: 6.1, 6.2, 6.3, 6.4, 6.6, 6.7, 6.8, and 6.10

Chap 7: 7.1, 7.2, 7.3, 7.4, 7.5 (note, we will start with section 7.5 1st in this Chap), 7.6B (no bicyclic nomenclature required except for decalins), and 7.8

Chap 8: 8.1, 8.2 (nomenclature of thiols & sulfides not a focus), 8.3, 8.4 (intermolecular interactions – introduced earlier in course), 8.5A–C, 8.6A–D (solutions and solubility), and 8.8

Chap 9: 9.1, 9.2, 9.3, 9.4, 9.5, 9.6, 9.7, 9.8 (organometallics: note, will cover this section later in Chap 11 (sec 11.5C)), and 9.10A

Chap 10: 10.1, 10.2, 10.3, 10.4A–D, 10.5, 10.6 (oxidation), 10.7, 10.11, and 10.12

Chap 11: 11.1, 11.2, 11.3, 11.4, 11.5 (connect here with Chap 9), 11.6, 11.10, and 11.11

Chap 12: *Skip* → IR & MS will be covered in Chem 344/345

Chap 13: *Skip* → NMR will be covered in Chem 344/345

Chap 14: 14.1 (π-bonding introduced in Chap 1), 14.2, 14.4, 14.5, 14.6, 14.7, and 14.8 *(skip any problems with Chap 12 or 13 material)*

Chap 15: 15.1, (*skip 15.2 → UV & fluorescence*), 15.3, 15.4, 15.6, 15.7 (no Frost Cycle), and 15.8 *(skip any problems with Chap 12, 13, and 15.2 material)*

Lecture Schedule – Chem 343 – Lectures 2 & 3 – Spring 2016

JANUARY *Note, dates for topics can shift slightly during the semester depending on course pace.*

Tuesday	*Thursday*
19 **Intro to course & Chap 1** Bonding & Structure: Lec #1	21 **Chap 1** Lec #2
26 **Chap 2:** Alkanes Lec #1	28 **Chap 2** Lec #2

FEBRUARY

Tuesday	*Thursday*
2 **Chap 3:** Acids & Bases Lec #1	4 **Chap 3** Lec #2
9 **Chap 4:** Intro to Alkenes Lec #1	11 **Chap 4** Lec #2
16 **EXAM 1 – In Class**	18 **Chap 5:** Addition Reactions of Alkenes Lec #1
23 **Chap 5** Lec #2	25 **Chap 6:** Stereochemistry Lec #1

MARCH

Tuesday	*Thursday*
1 **Chap 6** Lec #2	3 **Chap 7:** Cyclic Cmpds & Stereochemistry Lec #1
8 **Chap 7** Lec #2	10 **Chap 8:** Intro to Alkyl Halides, Alcohols, Ethers, Thiols, etc.
15 **EXAM 2 – In Class**	17 **Chap 9:** Chemistry of Alkyl Halides (S_N2/E2 & S_N1/E1)**:** Lec #1
Spring Break: March 19–27	

29 **Chap 9** Lec #2	31 **Chap 9** Lec #3

APRIL

Tuesday	*Thursday*
5 **Chap 9 & start Chap 10:** Alcohols & Thiols	7 **Chap 10** Lec #2
12 **Chap 10 & start Chap 11:** Ethers, Epoxides, Glycols, and Sulfides	14 **Chap 11** Lec #2
19 **Chap 11 (start Chap 14 only if time):** Chem of Alkynes	21 **EXAM 3 – In Class**
26 **Chap 14 (start Chap 15 if time):** Dienes, Resonance & Aromaticity	28 **Chap 15** Lec #2

MAY

Tuesday	*Thursday*
3 **Chap 15** Lec #3	5 **Chap 15 & wrap-up** Lec #4
FINAL EXAMS: Lec 3 (9:30 am lecture): Mon May 9th 7:45 – 9:45 am Lec 2 (1 pm lecture): Thurs May 12th 5:05 – 7:05 pm	

- Book chapters correspond to *Organic Chemistry*, 6th Ed., M. Loudon & J. Parise.
- Each book chapter will be covered in roughly 2 lectures, except for Chapters 9 & 15.
- **READ the relevant book chapter and WORK the associated problems BEFORE and THROUGHOUT the corresponding lectures.** You will get a lot more out of them!
- Midterm exams will focus on the material covered in prior lectures (but concepts of course build throughout the course; i.e., no topic is stand alone).
- The Final exam will be cumulative.