

Chemistry 140A - Fall, 2013

APPROXIMATE COURSE SCHEDULE AND ASSIGNMENTS IN VOLLHARDT & SCHORE, 6th ed. (hardcopy or eBook)

READ IN ADVANCE the sections assigned below, as well as the "Keys to the Chapter" in the Study Guide. The sections "New Reactions" and "Important Concepts" at the end of chapters are especially helpful in organizing the material. You are not responsible for history, for personalities, for stories in the "Chemical Highlight" sections ("Boxes"), or for captions to photographs, but you will enjoy reading some of this material.

Do as many exercises and problems as you have time for (more than just those with "!"), but you may not wish to do all those listed below. Many are trivial drill that you should persist with until you feel confident that you *could* easily do the rest. The "arithmetic" ones are not assigned, but they may be instructive. So choose to do exercises and problems to help you understand and to help extend your understanding. Do the exercises within the chapter as you read, and do the problems at the end of each chapter, which are especially recommended, after the relevant lectures. Your answers are not to be handed in, so you are encouraged to collaborate with other students. The answers are not important in themselves, so don't just look them up! What is important is the understanding that the exercises and problems test for and the method of thinking that they demonstrate. If you have an answer that you think is correct but is different from the one in the Solutions Manual, ask your TA. You may also ask (and answer) questions at the course website (<https://ted.ucsd.edu>), where you sign in with your UCSD e-mail username and password. This schedule is also posted there, and you are responsible for keeping informed of any changes.

Key to symbols:

- ! = difficult or important or both; don't just skim
- () = optional (for your enjoyment or general edification)
- + = plus additional material in lecture
- = partial coverage (pay attention to emphasis in lecture, skim text if unclear)
- ? = don't believe all you read (or misprint in Exercise, Problem, or Answer)
- X = except

Sep. 27, 30 (guest lecturer), Oct. 2, 4 (guest lecturer): **CHAPTER 1** (Use Lewis *or* Kekulé, **with** lone pairs.)

Sections: Preface(pp xx-xxvii)!, (0), (1!), 2±, 3!-, 4!+, 5+!, 6!-, 7+!, 8±!, 9!

Exercises: 1b!("Memorize", or include on Reminder Sheet), (2), 3, 4?, 6!, 7, 8, 9ab-, 10, 11, 14, (15), 19!, (20), (21), 22

Problems: 23, 24, 25!, (26), 27, (28), 29!, 30, 31!?(nonoctet unnecessary), 32-, (34ab), 35!, 36, (37), 38!Xg, 40, 44!, 45!, 46, 47ab(c), 49!, (50), 51!Xi, (52), (53), 54, 55, 56, 57

Oct. 7, 9, 11: **CHAPTER 2**

Sections: (0), 1-, 2!, Table2!("Memorize"), 3, Table3!("Memorize"), 4, Table5("Memorize" names to $n=10$), Table6("Memorize"), [*Nomenclature*: Be sure that you can draw the correct structure from a molecule's name. For 140A you need not learn how to provide the correct name.], 6, 7!, 8!

Exercises: (1), (2), (3), (4), (5), (6), 7, 8, 9, 10a(b), 11, (13), 14, 15, 16a!b, (17), 18, 19, 20, 21, 22ab(c), 23

Problems: (26), 27Xiii, (28), 29, (30), 31!, 32!, (33), (34), (35), (36), (37), 38!-, 45!, 46b, 47, 48, (49), 52, 53, 54, 55, 56

Oct. 14, 16, 18: **CHAPTER 3**

Sections: 0, 1!, Table1("Memorize"), Fig. 3-1, 2+!, (3), Fig3-4!, 4±!, 5-, 6-, 7-, 8, (9), 10-

Exercises: 1, 4a(b), 5!, (6), 7a, 8a, 9a, (10), 11,

Problems: 13a, (14), 15, 16Xname,orbitals, (19), 20!, 21a, 22!, 23, 27!, 29, 30ab, 34bc, (40), 46

Oct. 21 (Monday): **MIDTERM EXAM**, covering CHAPS. 1-3.6 (and to Problem 3-23).

Oct. 23, 25: **CHAPTER 4**

Sections: 0, 1!, 2-, 3!, 4, 5, 6-, (7)

Exercises: (1), 3-, 4, (8), (9), (11), 12!, (13), (14), (15), 16, (17), 18

Problems: 19!ab(c), 21!, 22!, (23), 24!, 27, 30!, (31), 32!, 34, (35), (36), (37), (39-), 41a(b), (42), 43, (44), (45), (48), 54, 55, 56, (57)

Oct. 25 (notice!), 28, 30, Nov. 1, 4: **CHAPTER 5**

Sections: 0!, Figure1("Memorize"), 1!+ (Box1), 2!-, 3! (Box2), (4)[Warning: Do not use Fischer projections!], 5! (Box3), 6?+, 7!+ (Box4,Box5), 8

Exercises: 1, 3, (4), 5!, (6), (7), 9, 10, 11, 12, 18b, 19bcd, 20**zigzag**, 22?, 23?, 24, 25, 26!, 27

Problems: (throughout, no "bowties!") 28!, 29, (30), (31), 32!, 33!, 34, 35, 36?, 37, 38Xb, 39, 40!-, 41!, 42, 43, 44!, 45, 46-, 50, 51, 53a, 54a, 56!-, 57!, 58!, 59, 60, 61!, 62!, 63?(N in a), 64, 65

Nov. 6, 8: **CHAPTER 6**

Sections: 0, 1-, 2!, Table3!, 3!, 4, 5, 6, 7!, Table4!, 8!, Table5,Table7examples!, 9

Exercises: 1!, 2, 3, 4!, 5, 6, 7, 8, 11, 12!, 13!, 14!, (15), 16, 18, 19, 20, 21, 22, 23, 24, 25!, 26!, 27, 28

Problems: 29, 30ab, 32, 33-, 34!-, 35, 36!, 38, 41, 42!Xa, 43, 44!, 45!, 46Xb, 47, 48!, 49, 51, (52), 53!, 54, 55, 56, 57, 58, 59!, 62, 63, 65, 66

Nov. 13, 15: **CHAPTER 7**

Sections: 0, 1, 2, Fig.2!, 3, 4, 5!+, Table2("Memorize"), 6, 7, 8, 9!, Table4("Memorize")

Exercises: 1, (2), 3, 4!, 5, 6, 7, 8, 9, 10, 11, 12, 13, (14), 15, 16ab, 17, 18, 19, 20, 21, 22

Problems: 23, 24a(b), 25, 26, 27a!(b), 28, (29), 30, 31, 32, 33, 34!, 35, 36, 38, 39, 40, 41!, 42!, 43Xc, 44Xh, 46, 47!, 48, 49, 50!, 53, 54, 57, 58, 59, 60, 62, 63, 64, 65, 66

Nov. 18 (Monday): **MIDTERM EXAM**, covering CHAPS. 1-7.6 (and to Prob. 7-34,62,65).

Nov. 20, 22, 25: **CHAPTER 8**

Sections: 0, 1-, 2-, 3, (4), 5, 6! (Box1), 7! (Box2), 8!, 9! (Box3)

Exercises: 1, (2), 3, 4, 5, (6), 7, 8!, 9, 10, 11, 12, 13, 14, 15, 16!, 17, 18, (19), 20, 21!

Problems: 22, (23), 25, (28), 30bc, 31, (33), 34, 35, 36(a)bce, 37, 38, 39, 40!, (41), 42, 43, 44, 45!, 46, 47, 48, (49), 50, 51!, 52, 53, 54, 55, 56, 57, (58), (59), (60), (61), 65, (66)

Nov. 25 (notice!), 27 (may be canceled), Dec. 2, 4: **CHAPTER 9**

Sections: 0, 1, 2, 3!, 4-, 5-, 6, 7, 8, Box2, 9-, 10-, (11) (Box4), Interlude!, after Chap 11

Exercises: (1), 2, 3, 4, 5, 6, 7!, 8, 9, 10, 11!, 12, 13, 14!, (15), 16!, 17!, 18, 19, 20!, 21, 22, 23, 24, 25b

Problems: 26!, 27!, 28, 29, 30, 31, 32, 33, 34, 36, 37, 38!, 39!, 40!, (42), 43!, 44, 45, 46, 47a, 48, 49Xf, 50, 51!, (52), 54, 55, 56b, 58, 59, 60!, 61, 62, 65!, 66, (67), (68), (69), (70), (71), 73, 76, 77, 78, Interlude 2, 4, 6-, 7!, 8!

Dec. 6: Margin of Safety/Review

Dec. 11 (Wednesday), 3:00 - 6:00 PM: **FINAL EXAM**, covering CHAPTERS 1-9, **in Rec Gym** (subject to availability). **Sit in designated seats, with no classmate adjacent.**

If you want to retrieve your exam, either bring to the final exam a stamped, self-addressed business-size (4.25x9.5 inch) envelope (postage 65¢, unnecessary if sent to on-campus address), or be willing to sign your exam authorizing us to leave it in the 5th floor lobby of PacHall.

ADVICE TO STUDENTS

Textbook

Vollhardt & Schore, "Organic Chemistry," 6th ed. (2011) + "Study Guide and Solutions Manual" ± eBook (optional online version). (This syllabus is not keyed to earlier editions, which you use at your own risk.) A set of molecular models, which can be shared, is also recommended. The cheapest ball-and-stick models (from maruzen.info/hgs/catalog/ or molecularvisions.com or ACS Student Affiliates in York 4020AB) are preferable to space-filling ones. Use of textbook or models during exams is prohibited.

Material Covered

You are responsible for assigned material in the textbook and in lectures, which will clarify the textbook, emphasize the important topics, and occasionally present additional material.

DO NOT FALL BEHIND!

Read the textbook IN ADVANCE of the lectures, so that you won't need to take lecture notes that duplicate examples that are in the book. As you read, *do the problems*. Your answers are not to be handed in, so you are encouraged to discuss and compare them with other students (but not during exams!). Honesty is a requirement of this course, and all cheating will be punished severely. You are advised to familiarize yourself with the UCSD Policy on Integrity of Scholarship.

Exams and Grades

Grades depend on performance on two midterm exams (200 points, 250 points) and the final (550 points). No exam booklets ("bluebooks") or Scantron forms are necessary, but bring a pencil for Scantron questions and a pen for written questions, which must be answered IN INK. Exams will be long, with an expected class average of 50-60% (to discourage copying and to protect good students from missing an A for one silly mistake). In exams, **do not sit next to someone you know**. You must bring a **PICTURE ID** (student or driver) and your student ID number to EVERY exam. Since exams are scaled by comparison with the rest of the class, make-up exams are strongly discouraged. Exams not taken will be assigned 0 points. Exceptions require a medical excuse, signed by your doctor, stating that you were incapable of attending the exam.

You may bring one 22 cm x 28 cm (two-sided) **Reminder Sheet** to exams, with any information you want, readable without a magnifying lens. As you read and study, you should plan, organize, and revise your Reminder Sheet carefully, so that it is useful for solving problems.

Midterms will be returned in section. If you think your exam has been misgraded, return it to your TA with an explanatory note attached. **MAKE NO MARKS ON YOUR EXAM.** To reduce the opportunity for cheating, be warned that exams may be photocopied and that other undisclosed protections may be utilized..

Grades will be posted at the course website (<https://ted.ucsd.edu>), protected by your UCSD e-mail username and password.

Sections (none on Sept 27)

M 4:00PM-4:50PM (Yao, Sequo148), **W** 12:00PM-12:50PM (Yao, CSB004), **W** 12:00PM-12:50PM (Alex, WLH2208), **F** 9:00AM-9:50AM (Alex, CSB004), **F** 1:00PM-1:50PM (Alex, Sequo147)

Sections are to help you understand the material and to verify that you really do understand. They are *strongly* recommended, and regular attendance will definitely be to your advantage. **GO!!!** You may attend whichever one(s) you wish, subject to room capacity. (If you attend a section other than the one you registered for, indicate on midterms where you want to retrieve them.) You will benefit more if you come prepared to ask and answer questions. No part of your grade depends on your performance in Section, so don't be ashamed to ask questions or to propose and comment on answers. Additional help may be obtained during your TA's office hours, which will be announced in Section.

Dr. Perrin's Office Hours (subject to change): Tu 2-3, W 11-12, Th 10-11, PacHall 5223A