

SYLLABUS

CHEMISTRY 343-4, INTRODUCTORY ORGANIC CHEMISTRY, FALL 2012 HONORS and MAJORS, LECTURE SECTION 4 (BURKE)

This course will be taught as a mix of traditional lecture and "active learning" formats, the latter utilizing small, interactive groups. Unifying concepts of organic chemistry will be presented, and deductive reasoning skills needed to apply these concepts to problem solving will be developed. **Understanding and mastery of the "how and why" will be pursued, seeking to show the unifying themes and analogies that organize and correlate the many facts of organic chemistry.**

Time: 9:55-10:45am, MWF, room 1315 Chemistry Bldg.

Instructors: Professor *Steve Burke*, Room 8132; phone 262-4941; e-mail: burke@chem.wisc.edu

TA *Brent Amberger* (bamberger@chem.wisc.edu)

Discussions: DISC 361, Tue., 5:40-6:30 pm, Room 2311

DISC 362, Wed., 5:40-6:30 pm, Room 2311

DISC 363, Thur., 5:40-6:30 pm, Room 2311

Office Hours: (Steve Burke), by appointment, Room 8132, Shain Tower.

TA Office Hours: (Brent Amberger) 9:55 Tue. and 1:20 Thur., Room B317.

Web Materials: All handouts, notes, old exams, keys etc. will be posted on Learn@UW

Library Reserve: Textbook, Study Guide, and alternate texts on reserve in Chemistry Library, Room 2361.

Required Course Materials:

Text: "Organic Chemistry, 5th Edition," by Marc Loudon, ISBN 9780981519432

Study Guide: "Study Guide and Solutions Manual to Accompany Organic Chemistry, 5th Edition," by Loudon and Stowell (accompanies Loudon text), ISBN 9780981519449

Molecular Models: HGS "C" Set, Darling, Proteus Framework or equivalent. [On sale in Chem. Bldg. Lobby by 1351 all day during first two weeks of class.] MODELS ARE ALLOWED (and needed) IN EXAMS.

Exam Schedule: Exam 1, Wednesday, October 3, 7:30-9:15 pm (*room to be announced*)

Exam 2, Wednesday, November 7, 7:30-9:15 pm (*room to be announced*)

Exam 3, Wednesday, December 5, 7:30-9:15 pm (*room to be announced*)

Final Exam, Friday, December 21, 10:05 pm-12:05 pm (*room to be announced*)

Grading: Minitests: 10% (multiple choice, 5 worth 10 pts each, taken during discussion)

Exams: 60% (3 exams worth 100 pts each; there will be some bonus points available)

Final: 30% (cumulative, 150 points)

Grade determined by total points, $x/500$

Class grade is on total points (e.g. $x/500$) and is not on curve; e.g. $>80\%$ = A, even if everyone did (unlikely)

Problem Assignments: (1) Use the problems within the text of each chapter to guide your study. (2) Use the following problems at the end of each chapter to test your knowledge, hone your skills, and prepare for exams. Additional problem sets and **practice exams** will also be provided. *Exam problems will resemble those on old practice exams. Working problems is VITALLY important: exam performance relates directly*

Chapter 1: 24, 25, 27, 31, 33, 34, 42, 45, 46

Chapter 2: 26, 27, 28, 29, 30, 31, 34, 36, 39, 43, 45, 46, 47, 48

Chapter 3: 25, 26, 27, 29, 31, 32, 33, 40, 43, 44, 48

Chapter 12: 25, 28, 33, 34, 39

Chapter 13: 35, 36, 38, 39, 42, 43, 44, 50, 53, 54, 55

Chapter 4: 39, 40, 43, 46, 48, 49, 51, 53, 54, 55, 57, 61, 63, 66

Chapter 5: 27, 29, 30, 32, 34, 37, 38, 41, 43, 46, 48, 50, 52

Chapter 6: 27, 29, 30, 32, 33, 36, 37, 38, 41, 42, 45, 46, 48, 51

Chapter 7: 32, 34, 36, 37, 40, 42, 43, 45, 47, 49, 53, 57, 58, 61, 63, 65

Chapter 8: 33, 35, 36, 38, 39, 40, 41, 42, 44, 49, 53, 55, 57, 59, 61, 62

Chapter 9: 34, 35, 36, 37, 39, 40, 42, 46, 47, 49, 52, 53, 55, 58, 61, 62, 63, 65, 69

Chapter 10: 35, 36, 37, 43, 45, 46, 50, 52, 54, 56, 59, 61

Chapter 11: 44, 45, 46, 49, 51, 54, 56, 58, 60, 61, 63, 66, 68, 70, 71, 73, 75, 77, 79

Chapter 14: 26, 27, 28, 30, 33, 34, 37, 40, 42, 43, 45

LECTURE, READING, AND EXAM SCHEDULE

Unit 1: 9/5, 9/7, 9/10, 9/12, 9/14, 9/17: Chapters 1 (Bonding and Structure), 2 (Alkanes), and 3 (Acid-Base and Curved-Arrow Formalism)

Unit 2: 9/19, 9/21, 9/24, 9/26, 9/28, 10/1: Chapters 12 (Introduction to Spectroscopy) and 13 (NMR Spectroscopy)

Wednesday 10/03 Exam I

Unit 3: 10/5, 10/8, 10/10, 10/12, 10/15, 10/17: Chapter 4 (Alkene Structure and Reactivity) and Chapter 5 (Addition Reactions of Alkenes)

Unit 4: 10/19, 10/22, 10/24, 10/26, 10/29, 10/31, 11/02: Chapter 6 (Stereochemistry) and Chapter 7 (Cyclic Compounds and more Stereochemistry)

Unit 5: 11/05: Begin Chapter 8 (Intro. To Alkyl Halides, etc.) and Chapter 9 (Chemistry of Alkyl Halides): ON EXAM III

Wednesday 11/07 Exam II

Unit 5: 11/09, 11/12, 11/14, 11/16, 11/19, 11/21: Continue Chapter 8 (Intro. To Alkyl Halides, etc.) and Chapter 9 (Chemistry of Alkyl Halides)

Unit 6: 11/26, 11/28, 11/30, 12/03: Chapter 10 (Chemistry of Alcohols and Thiols) and Chapter 11 (Chemistry of Ethers, Epoxides, etc.)

Wednesday 12/05 Exam III

Unit 7: 12/07, 12/10, 12/12, 12/14: Chapter 14 (Chemistry of Alkynes and Introduction to Synthesis)

Friday 12/21 Final Exam (CUMULATIVE)

KEYS TO SUCCESS

- Keep up with reading and problem working. Don't let things slide. Study organic chemistry every day.
- Study text intently--it is your primary source of factual information (it is your map on this quest, Burke and Amberger are your guides).
- Practice, Practice, Practice--working problems develops and tests your knowledge.
- Make a stack of note cards as we go through the semester. You can study them in the many short periods of time each day that might otherwise be wasted.
- Form study groups, and participate. Rarely is everyone in a group simultaneously stumped, whereas individuals often are, with time wasted and frustration built.
- Most of your learning needs to occur outside of class—developing your problem solving (O-Chem test taking) skills requires practice.

PRIOR YEAR GRADE DISTRIBUTIONS IN BURKE HONORS/MAJORS SECTIONS

CHEM343_08 >79% A (19) 73-78% AB (8) 61-72% B (12) 55-61% BC (1) 51-54% C (3) <50% F (2)	CHEM343_07 >79% A (13) 76-78% AB (6) 61-74% B (17) 56-59% BC (3) 41-49% C (3) <40% F (2)	CHEM343_03 >79% A (17) 74-76% AB (5) 60-73% B (16) 56-59% BC (3) <55% C (1)	CHEM343-Multiyear Averages Every Year is Close to These >79% A 74-78% AB 60-73% B 55-59% BC <55% C
CHEM343_09 >79% A (20) 75-78% AB (15) 61-74% B (10) 55-60% BC (3) BEST EVER	CHEM343_10 >79% A (13) 74-78% AB (14) 61-73% B (16) 54-60% BC (1) <55% C (1)	CHEM343-11 >80% A (10) 73-78% AB (8) 61-72% B (12) <53% C (3)	

