

ORGANIC CHEMISTRY 345

Spring 2010, MWF 10:00-10:50 am, Room CHM 180

Instructor: Dr. Alan Schwabacher, CHM 633, 229-4410, awschwab@uwm.edu (email is best)
Office Hours: By appointment. I am NOT available the hour before class, or on Fridays 12-5.
You are welcome to stop by any time, but if you want to be sure I will be available, set up an appointment first.

Course Objectives: To deepen understanding of the effect of organic molecular structure on reactivity, to introduce spectroscopic structure determination, and to provide understanding of the structures and behaviors of simple biological molecules. Many functional groups and their transformations will be covered, with mechanism treated as a central and unifying theme.

Text: J. McMurry, "Organic Chemistry," 7th edition

Recommended: S. McMurry "Study Guide and Solutions Manual for Organic Chemistry," 7th Edition
Has detailed answers to problems in text.
Models will be particularly useful for stereochemical analyses.
Old exams are helpful, but are different from those to be given this semester.

Website: <http://alchemy.chem.uwm.edu/classes/chem345/345.htm>

Tentative Schedule: Any changes in exam dates will be noted in class at least a week in advance.

Jan.	25	Chap. 17 Alcohols	Mar.	1	Chap 20 Acids	5	Carbonyl based
	27	& phenols		3	Chap 21 Carboxylic		synthesis
	29	Chap 18 Ethers,		5	Acid derivatives	7	Chap 24
						9	Amines
Feb.	1	epoxides, sulfides		8	& Acyl Transfer		
	3	Chap 12 Spectroscopy		10	Chap 22 Carbonyl	12	
	5	MS & IR		12	?-Substitution	14	Chap 30
						16	Pericyclic
	8	Chap 13 NMR		15	& Enolization		
	10	Spectroscopy		17		19	Reactions
	12			19	EXAM 2	21	Exam Review
						23	EXAM 3
	15	Chap 14 Dienes, UV		22	Spring break		
	17	Spectroscopy		-		26-	Carbohydrates,
	19	EXAM 1		26		May 12	Peptides, and
							Selected
	22	Chap 19 Aldehydes		29	Chap 23 Aldol		Topics from
	24	& Ketones,		31	Condensation		Chaps 25-29, 31
	26	Addition Rxns	Apr.	2	and Related Rxns		

FINAL EXAM will be Friday, May 21 10:00-12:00 AM in CHM 180.

Course Content: A large amount of material will be covered in this course. It is extremely important that you keep up. You should read the appropriate chapter **before** the lecture covering that material in order to maximally benefit from the discussion. Suggested problems for each chapter are on the reverse side. The answers will not be collected, but are available in the study guide. Working problems is the best way to learn, and the only way to tell whether you know the material. It is strongly advised that you work all problems. Consult the study guide only after you have worked the problems. If you cannot work problems, you should consult your text, notes, or problems earlier in the

chapter before you look at the answers in the study guide. Review of material from Chemistry 343 may be needed for you to solve these problems. Extra problems may be provided as handouts.

Quizzes will be given, generally in the first 5 minutes of class on Mondays. These quizzes will cover the main points of the previous week, and answers will be given in class immediately after quizzes are collected.

Examinations and Grading: Note that all exams are given during the class hour. All material covered in class up to an exam will be included. There will be three 100 point exams, each based largely on material covered since the previous exam. The final, worth 200 points, will cover all material. The quiz totals will be normalized to 100 points, equivalent to one of the hour exams. The lowest of these 100 point scores will be dropped, as long as you have taken the exam, so your final grade is based on a 500 point total.

All exams are required! If you miss an exam, with or without a prearranged excuse, you must take the missed exam within a week. Extraordinary circumstances may stretch the week deadline. If you do not take the exam at all, your score will be zero, and it **cannot** be replaced by the quiz total. A late exam score does not count directly, but it enables a score for that exam to be determined by your quiz scores and/or final exam, depending on circumstances.

Exam answer keys will be provided on the class website. You are advised to check the answer keys as topics missed on the hour exams are emphasized on the final exam.

If anyone needs accommodations in test or note taking, please discuss this with me early in the semester. Departmental and university policies are posted on the Chemistry Department bulletin boards.

HOMEWORK PROBLEMS - CHEMISTRY 345

Work all the problems within the chapter. At the end of the chapters, work *at least* these (preferably more):

Ch 17 - 22, 25, 30, 32-37, 40, 44, 46, 47, 51, 57

Ch 18 - 21, 24-27, 33, 34, 48, 52

Ch 12 - 15, 18, 21, 25, 31, 34-36, 39, 42

Ch 13 - 24, 25, 31, 33, 36, 39-41, 46-48, 51, 55, 57

Ch 14 - 18-20, 22, 28, 30, 34, 36, 41, 43, 45, 53

Ch 19 - 27, 28, 32, 34, 36, 38, 41, 43, 45, 46, 48, 58, 63, 64

Ch 20 - 17, 19, 21, 25, 26, 36, 38, 40, 42, 43, 58, 59

Ch 21 - 36-40, 42, 43, 54, 63, 64, 68, 70

Ch 22 - 18-23, 25, 28, 29, 32, 36-38, 58

Ch 23 - 27, 31, 33, 34, 36, 40 (text is right, structure is in error), 42-44, 53

Ch 24 - 30, 32, 33, 42, 43, 45, 50, 57, 68, 72, 75

Ch 30 - 13, 16, 17, 21, 26, 27, 29