



CH 21: Survey of Organic Chemistry

Department of Chemistry
Ateneo de Manila University
2nd Semester, SY 2007-2008
Ch 21B/C, MWF, 14:30-15:30, C-109

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"I go fishing in the periodic table for new reactivity, for new catalysts, for useful new organic reactions...It may look impossible, but so what?"

K. BARRY SHARPLESS, Nobel Prize in Chemistry, 2001

Course Description and Objectives

This is an introductory course in organic chemistry designed for non-chemistry majors. It aims to survey the different types of organic compounds: their structures, properties, reactivities and reaction mechanisms, and analysis through simple chemical tests.

Prerequisite: Ch 7

Course Outline and Timeframe

Week	Date	Activity/Topic	Chapter Readings/Comments
1	June 11	Syllabus; Introduction to Organic Chemistry	1
	13	Hybrid Orbitals, Polar Covalent Bonds	1, 2
2	16	Resonance	2
	18	Resonance	2
	20	Faculty Day	No Classes
3	23	Acids and Bases	2
	25	Alkanes and Their Stereochemistry	3
	27	Conformations	3
4	30	Cycloalkanes and Their Stereochemistry	4
	Jul 02	Cycloalkanes and Their Stereochemistry	4
		Cycloalkanes and Their Stereochemistry	4
	04	1 st LT (Ch. 1-4)	
5	07	An Overview of Organic Reactions	5
	09	An Overview of Organic Reactions	5
	11	1 st LT (Ch. 1-4) Discussion	
6	14	Alkenes and Alkynes	6
	16	Alkenes and Alkynes	6
	18	Alkenes and Alkynes	6
7	21	Reactions of Alkenes and Alkynes	7
	23	Reactions of Alkenes and Alkynes	7
	25	Reactions of Alkenes and Alkynes	7
	28	Reactions of Alkenes and Alkynes	7
8		2 nd LT (Ch. 5-7) Includes Ch. 1-4	Do not forget previous lessons
	30	Aromatic Compounds	8
	Aug 01	Aromatic Compounds	8
9	04	Aromatic Compounds	8
	06	2 nd LT (Ch. 5-7) Discussion	
	08	Stereochemistry	9
10	11	Stereochemistry	9
	13	Stereochemistry	9
	15	Alkyl Halides	10
11	18	Alkyl Halides	10
	20	Alkyl Halides	10
		3 rd LT (Ch. 8-9) Includes Ch. 1-7	Do not forget previous lessons
	22	Alcohols, Phenols, & Thiols; Ethers & Sulfides	13

12	25	National Heroes Day	No Classes
	27	3 rd LT (Ch. 8-9) Discussion	
	29	Alcohols, Phenols, & Thiols; Ethers & Sulfides	13
13	Sep 01	Alcohols, Phenols, & Thiols; Ethers & Sulfides	13
	03	Alcohols, Phenols, & Thiols; Ethers & Sulfides	13
	05	Alcohols, Phenols, & Thiols; Ethers & Sulfides	13
14	08	Preview of Carbonyl Chemistry; Aldehydes and Ketones:Nucleophilic Addition Reactions	14
	10	Aldehydes and Ketones:Nucleophilic Addition Reactions	14
	12	Aldehydes and Ketones:Nucleophilic Addition Reactions	14
		4 th LT (Ch. 10 and 13) Includes Ch. 1-9	Do not forget previous lessons
15	15	Carboxylic acids and Nitriles	15
	17	Carboxylic acids and Nitriles	15
	19	4 th LT (Ch. 10 and 13) Discussion	
16	22	Carboxylic Acid Derivs: Nucleophilic Acyl Subst. Reactions	16
	24	Carboxylic Acid Derivs: Nucleophilic Acyl Subst. Reactions	16
	26	Carboxylic Acid Derivs: Nucleophilic Acyl Subst. Reactions	16
17	29	Amines	18
	Oct 01	Amines	18
	03	Amines	18
18	06-11	FINAL WEEK (Comprehensive but emphasis on chapters 14-16, 18)	

Required and Suggested Readings

McMurry, J. *Organic Chemistry: A Biological Approach*, International Student Edition. Thomson Brooks/Cole Publishing, Belmont, CA 2007.

McMurry, J. *Organic Chemistry*, 6/e. Brooks and Cole Publishing, San Francisco, CA 2003.

Bruice, P. Y. *Organic Chemistry*, 4/e. Prentice Hall, NJ 2004.

Morrison and Boyd *Organic Chemistry*

Solomons and Fryhle *Organic Chemistry*

Course Requirements

§ *Problem Solving Session*

There will be a problem solving session once a week (1 hour) for the whole semester. This is not a required activity for the students. This will be scheduled to accommodate, if not all, most students. It is the duty of the class to look for a common schedule and reserve a room.

§ *Homework*

Everyone is required to submit answers to the assigned problems (All the problems in the chapters to be taken). These will not be returned. Submission will affect the final grade. Homework should be submitted in class or in my box in Schmitt Hall. You are encouraged to submit work on recycled paper. Please cross out the side that you have used and make sure that your work is clear and legible.

§ *Quizzes and Exams*

There will be no surprise quizzes. There will be quizzes every meeting except right after a long exam. Quizzes will be given at the start of the class. If you miss the quiz, you get a zero. Quizzes given will also be used to monitor your attendance. If you were not able to take the quiz, it would also mean absence for that particular session.

Exams will be conducted outside of class hours to enable the students to have more time (80 minutes vs. 50 minutes). Use blue book for exams and size 2 (crosswise) for quizzes. Use only ordinary/scientific calculators. Cell phones and personal digital assistants (PDAs) are not allowed.

Make-up exams are only given for valid reasons, eg. serious illness (esp. if contagious) and school-required engagements. You may consult the Student's Handbook and the instructor. Present an official document (medical certificate or letter from the ADAA) upon return.

Grading System

Long Exam	400 pts
Final Exam	200 pts
Quizzes	300 pts

Final Grade = Total score / 7

Recitation and homework will matter during borderline cases (final grade). If the student will recite often and submit problem sets on time (with reasonable answers for both), the grades will be rounded off to the higher grade. There will be no exemptions for the finals.

LETTER GRADE	NUMERICAL EQUIVALENT
A	≥ 92
B+	87 – 91
B	80 – 86
C+	75 – 79
C	68 – 74
D	60 – 67
F	BELOW 60

Classroom Policies

§ *Respect*

The basic rule in this class is to have respect and consideration for others.

- Inform the instructor if you need to get out of the classroom during class hours.
- Cell phones, mp3s, iPODs, PDA's, radios, headset devices, laptops and other unnecessary devices should not be used in class. Laptops (or PDAs) can only be used during reporting if they are needed for the presentation.
- Doing unnecessary activities and/or loud or boisterous behavior will not be tolerated. Students will be sent out of the class and will be considered absent for the day.
- NO HORSEPLAY, TEASING, or HARRASSMENT of classmates (or instructors) will be tolerated.
- No visitors (or pets) are allowed in the class except by permission of an instructor.
- No eating inside the classroom unless the student has no breaks before and after the class. In that case, the student has to inform the faculty at the start of the semester. Eating inside the classroom may be allowed as long as it does not distract anyone (include the one eating) from participating in class. The student should be responsible for maintaining the cleanliness of the room.
- Wear attire that is proper for a classroom setting. Any form of clothing that can distract anyone will not be allowed.
- Maintain cleanliness of the room. Dispose your trash properly. *It is your responsibility as earth-dwellers to maintain the cleanliness of your surrounding.* Abuse of school facilities will not be allowed.

§ *Attendance*

The student handbook allows six (9) cuts, excused or unexcused. Students get a letter grade of W (Withdrawal without permission from course) when they go over the allowed number of cuts. Attendance will be checked by the instructor and class beadle/s. Quizzes and other classroom activities will also be used to monitor the attendance.

§ *Policy on Honesty*

Dishonesty (e.g. cheating, plagiarism etc.) is a major offense. Any form of communication between classmates is not allowed during quizzes and exams. Should there be evidence that dishonesty has been committed, the maximum penalty allowed by the university will be pursued.

Consultation Hours: During the problem solving session or by appointment.
