

ANOKA-RAMSEY COMMUNITY COLLEGE COURSE SYLLABUS

Course:	Chemistry 2062 — Organic Chemistry II, 5 credits, Spring 2006
Lectures:	MWF 10:00-10:50 am, S245 T 1:00-1:50 pm, S145 (note the different room)
Prerequisite:	Grade of C or better in Chemistry 2061 or equivalent
Instructor:	Professor Andrew Aspaas, Office S204
Telephone:	763-433-1108
E-mail:	andrew.aspaas@anokaramsey.edu
Course Webpage:	http://webs.anokaramsey.edu/aspaas/2062/
Office Hours:	M 11:00 am – 1:00 pm (Note: Office hours subject to change) T 5:30 – 6:20 pm W 11:00 am – 1:00 pm Th 2:00 – 4:20 pm
Chem Lab Manager:	David Stephan, Office S221, 763-433-1488, david.stephan@anokaramsey.edu
Science Secretary:	Bonnie Witte, Office S201, 763-433-1126, bonnie.witte@anokaramsey.edu

COURSE OUTCOMES

This is the second semester course of a year-long organic chemistry sequence. Upon completion of the course, the student should be able to:

1. Predict syntheses and reactions of alcohols, ethers, epoxides, aromatic compounds, ketones, aldehydes, amines, carboxylic acids, and carboxylic acid derivatives
2. Understand concepts of conjugation, aromaticity, and orbital symmetry
3. Relate the concepts from Organic Chemistry I to the systems in **1** and **2**.
4. Make advanced use of infrared, nuclear magnetic resonance, ultraviolet spectroscopy, and mass spectrometry with respect to the types of compounds in **1**.
5. Become proficient in common organic laboratory techniques such as separation, extraction, distillation, chromatography, as well as perform elementary organic synthesis reactions

MATERIALS REQUIRED

- Textbook: Organic Chemistry, 6th Edition, L.G. Wade, Jr.
- Lab Text: Operational Organic Chemistry, 3rd Edition, John W. Lehman
- WebAssign Cards, available at the ARCC bookstore checkout
- Scientific calculator
- Outside-class access to an internet-connected computer at home *or* using the ARCC computer labs

OPTIONAL RESOURCES

- Solutions manual
- Prentice hall molecular modeling kits
- Website Links: Available at <http://webs.anokaramsey.edu/chemistry> and <http://webs.anokaramsey.edu/aspaas/>
- On-Campus Tutoring: Schedule will be posted at http://www.anokaramsey.edu/StudentServices/cr_chemistry.cfm and at the Academic Support Center

LABORATORY

Laboratory attendance is mandatory and experiments must be performed at the assigned time. If you must be absent, including for an illness, notify the instructor in advance. Make-up labs may be arranged during other scheduled lab periods by consulting with the instructor. If you miss a lab, or are unable to make it up during one of the other lab periods, it will count as a ZERO. However, the lowest laboratory score for the semester will be dropped. Students missing three labs will have their grade reduced by one full letter grade. Students missing four labs will have their grade reduced by two full letter grades. Students missing five or more labs will fail the course.

For safety reasons, it is essential that you read and comprehend the experiment and all related operations before lab. You must also fill out your laboratory notebook with the pre-experiment materials. A handout will be given with more details on this.

Laboratory reports will be ordinarily be due at the start of your assigned lab period, one week after the laboratory is performed, unless announced otherwise by the instructor. Students normally work in pairs.

It is crucial that you arrive to laboratory on time, as discussions will start immediately. Safety glasses and goggles will be provided for you to wear whenever chemicals are being used in the laboratory.

CONDUCT AND ATTENDANCE

In order for this class to be successful, we must all work together to make the classroom environment one that's amenable to concentration and learning. The classes will start and end promptly at the times listed, so please make sure to find your seat a few minutes early, and do not start packing up your materials before the class is finished. If you arrive late, please use the back door and find a seat near the back of the class, being as minimally disruptive as possible. While I strive to maintain a fun and relaxed classroom environment, disrespectful behavior like interrupting the instructor or other students, socializing during the class period, use of cell phones or other disruptive devices, or anything else which impedes on any other student's ability to focus and learn, will not be tolerated. Please remember to turn off your cell phones before lecture starts – we can make it a habit as I need to remember to turn mine off as well!

Disruptive students may be removed from class with or without warning, and may not return until meeting with Karen Kraft, Dean of Educational Services, and meeting the guidelines set forth in the Student Code of Conduct.

While I do not take attendance, class attendance is expected by college policy. Students are responsible for all information and assignments given in class. The easiest way to fall behind and ultimately fail a class is to be absent multiple times. Material moves relatively quickly in this course, so even one absence can put you behind. Please contact the instructor in advance in person or by email if you know you will be absent. Excessive absences may result in penalties to your classroom participation score, described on the next page.

ASSIGNMENTS AND QUIZZES

Reading assignments are given later in this syllabus. You should briefly skim the reading assignment before it is covered in class, and work through it in detail after the lecture.

Approximately **4 quizzes** will be administered as either in-class, take-home, or online quizzes in this course. The in-class quizzes may be unannounced, and may be open-notes, but will not be open-book. Take-home quizzes will be announced in class but must be downloaded from the course website. Online quizzes will be available through

Webassign (<http://www.webassign.com>). All quizzes will be worth approximately 10 points each. Make-up quizzes for excused absences *may* be available. See the instructor.

Textbook practice problems will also be assigned. *These are critical to your success in this course! Organic chemistry is learned with a pencil and paper.* The problems assigned should be considered a bare minimum. If extra practice is needed, you should work more appropriate problems. Practice problems will not be collected.

Important note: Using the solutions manual to guide yourself through practice problems is a waste of your time. Organic problems are notorious for appearing straightforward when the full answer is presented, but difficult to reproduce from scratch. During exams, you will be asked to perform these problems with nothing in front of you, so your time will be better spent struggling through problems on your own, without referring to the solutions manual until you are *finished* to check your work.

Graded homework problems will be assigned for each chapter. These assignments will either be collected in class, or performed electronically on WebAssign as the instructor directs. Each problem set is worth 5 points. More information on these assignments will be given to you in the first two weeks of class. A WebAssign card is required to access online problem sets—these are available at the cashier in the ARCC bookstore.

Classroom participation is important to be successively engaged in the material. Each Tuesday lecture this semester will consist of group work and interactive learning. Often times your group may be asked to perform one of the assigned textbook practice problems so it is to your advantage to attempt these problems as soon as possible during your own studying. Attendance at each of these weekly group work sessions is mandatory, and will be worth 5 points for each week.

Additional participation points will be rewarded outside of the group work sessions. Part of this grade will be assessed through your participation on the WebAssign message boards, an online collaboration environment where you can converse with your classmates and the instructor by posting messages. I think you'll find this to be a very useful way to get clarifications or alternative explanations on difficult concepts presented in this class. Excessive absences from lectures may be reflected in the classroom participation score as well.

EXAMS

Only those topics covered in lecture, laboratory, in the reading assignments, or the problem assignments will appear on the exams. Exams must be taken at the scheduled time. *Make-up exams may only be given in the case of documented emergencies, and must be completed before the exams are returned to the class (1-2 class periods following the exam).* The instructor has the right to refuse a make-up exam. Exams may be arranged to be taken early, see the instructor as soon as possible if you may need this option.

The lowest one-hour exam score will be dropped. If you miss an exam, that exam will count as a *zero* and will be the dropped exam. You should try your very best for each exam, since you never know when unplanned non-emergency events may prevent you from taking a future exam. There will be four one-hour exams plus the final. Make-ups may be allowed for the final exam if the instructor has been consulted in advance.

Alternative testing situations can be arranged for those students with a documented learning disability. Please notify the instructor well in advance of the exam if you elect for this service. *The alternative exam time may not be later than the assigned exam time.*

STUDYING

Practice and studying in organic chemistry is critical to your success in this class. This cannot be stressed strongly enough. The concepts in this class will not be fundamentally more difficult than those in other science courses, but they will most likely require significantly more practice and self-study. Rote memorization of reactions and concepts in organic chemistry is tempting, but this is not an effective way to learn this type of material. The exams will test your ability to apply the fundamental principles learned to new situations—they will not simply ask to you regurgitate the material.

ACADEMIC DISHONESTY

Cheating or plagiarism of any kind will not be tolerated. Students will be given one warning upon the first instance of any cheating or plagiarism. Any incidents after the warning will result in the exam, quiz, or assignment in question to be given a grade of zero, which cannot be made up. Care will be taken to discuss proper formats for citing sources in written projects as needed throughout the semester. Many lab reports and group projects involve sharing of data and collaboration between several students; these instances do not constitute plagiarism as long as all contributors are listed on the assignment.

GRADES

These are the tentative point distributions for this course. Any significant changes to this policy will only occur in items 1 and 2.

1. Laboratory	about 175 points
2. Quizzes/Homework/Participation	about 125 points
3. Three highest one-hour exam scores	300 points
4. Final Exam	200 points
Total	about 800 points

The final grade will typically be based on a total point system with the following letter grades:

- A** 88.0 % and above
- B** 76.0 - 87.9 %
- C** 64.0 - 75.9 %
- D** 52.0 - 63.9 %
- F** below 52.0 %

These letter grade percentages may be lowered but will not be raised.

CHEMISTRY 2062 ASSIGNMENTS

The problem assignments listed below should be considered the *minimum* number of problems that should be completed in your studies. Additional practice should make you more proficient with the course material. As this is a new textbook edition, this table will be completed and posted to the website over the course of the semester.

Chap	Title	Reading Assignments	Suggested Problem Assignments
11	<i>Reactions of Alcohols</i>	All sections	TBA
14	<i>Ethers, Epoxides, and Sulfides</i>	All sections	TBA
15	<i>Conjugated Systems, Orbital Symmetry, and Ultraviolet Spectroscopy</i>	All sections	TBA
	Exam 1		
16	<i>Aromatic Compounds</i>	All sections	TBA
17	<i>Reactions of Aromatic Compounds</i>	All sections	TBA
	Exam 2		
18	<i>Ketones and Aldehydes</i>	All sections	TBA
19	<i>Amines</i>	All sections	TBA
20	<i>Carboxylic Acids</i>	All sections	TBA
	Exam 3		
21	<i>Carboxylic Acid Derivatives</i>	All sections	TBA
22	<i>Condensations and Alpha Substitutions of Carbonyl Compounds</i>	All sections	TBA
	Exam 4		
23	<i>Carbohydrates and Nucleic Acids</i>	TBA	TBA

Chemistry 2062 Tentative Lecture, Exam, and Lab Schedule

Changes and updates to this schedule will be announced in class and posted at <http://webs.anokaramsey.edu/aspaas>

Lab	Monday	Tuesday	Wednesday	Thursday	Friday
	Jan 9	Jan 10	Jan 11	Jan 12	Jan 13
Exp 15 A: TLC	Intro, Review	Group Review	Ch 11		Ch 11
	Jan 16	Jan 17	Jan 18	Jan 19	Jan 20
Exp 29 S: Red. Of Vanillin	Ch 11	Group Ch 11	Ch 14		Ch 14
	Jan 23	Jan 24	Jan 25	Jan 26	Jan 27
Exp 10 A: Cloves	Ch 14	Group Ch 14	Ch 15		Ch 15
	Jan 30	Jan 31	Feb 1	Feb 2	Feb 3
TBA	Ch 15	Group Ch 15/Review	Ch 15		Exam 1 Ch 11, 14, 15
	Feb 6	Feb 7	Feb 8	Feb 9	Feb 10
Exp 35 S: Aromatics	NO CLASS	Group Exam 1/Ch 16	Ch 16		Ch 16
	Feb 13	Feb 14	Feb 15	Feb 16	Feb 17
TBA	Ch 16	Group Ch 16	Ch 17		Ch 17
	Feb 20	Feb 21	Feb 22	Feb 23	Feb 24
Exp 37 S: Friedel-Crafts	NO CLASS	Group Ch 17	Ch 17		NO CLASS
	Feb 27	Feb 28	Mar 1	Mar 2	Mar 3
Minilab 30 S: Nitration	Ch 17	Group Ch 17/Review	Ch 17		Exam 2 Ch 16, 17
	Mar 6	Mar 7	Mar 8	Mar 9	Mar 10
No Lab	SPRING BREAK	SPRING BREAK	SPRING BREAK	SPRING BREAK	SPRING BREAK
	Mar 13	Mar 14	Mar 15	Mar 16	Mar 17
Exp 24 S: Hydration	Ch 18	Group Exam 2/Ch 18	Ch 18		Ch 18
	Mar 20	Mar 21	Mar 22	Mar 23	Mar 24
Exp 40 S: Wittig	Ch 18	Group Ch 18	Ch 18		Ch 19
	Mar 27	Mar 28	Mar 29	Mar 30	Mar 31
TBA	Ch 19	Group Ch 19	Ch 19		Ch 20
	Apr 3	Apr 4	Apr 5	Apr 6	Apr 7
Exp 39 A: Unknown	Ch 20	Group Ch 20	Ch 20		Exam 3 Ch 18, 19, 20
	Apr 10	Apr 11	Apr 12	Apr 13	Apr 14
Exp 45 S: DEET	Ch 21	Group Exam 3/Ch 21	Ch 21		Ch 21
	Apr 17	Apr 18	Apr 19	Apr 20	Apr 21
TBA	Ch 21	Group Ch 21	Ch 22		Ch 22
	Apr 24	Apr 25	Apr 26	Apr 27	Apr 28
Exp 47 S: Dime done	Ch 22	Group Ch 22	Ch 22		Exam 4 Ch 21, 22
	May 1	May 2	May 3	May 4	May 5
TBA	Ch 23	Group Exam 4/Ch 23	Ch 23		Time-permitting Ch 24
	May 8	May 9	May 10	May 11	May 12
Finals Week			Final Exam 4:10 PM		

**Note: In the event the instructor misses a class, the entire lecture schedule may not be adjusted.*