

ORGANIC CHEMISTRY II: CHEMISTRY 342 SYLLABUS

Summer 2013

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Required Text and Materials:

- 1) Text: "Organic Chemistry", 8th edition, Carey and Giuliano (Note: an alternative is to buy a cheap version of "Organic Chemistry" by Leroy Wade, either the 6th or 7th edition. See "required text and materials" on website for information. <http://web.mnstate.edu/jasperse/Chem341/Required%20Text%20and%20Materials.pdf>)
- 2) Solutions Manual: "'Student Solutions Manual to accompany Organic Chemistry" Eighth Edition, by N. T. Allison, R. M. Giuliano, R. C. Atkins, and F. A. Carey." (The text and solutions manual may be available as a bundle at Varsity Mart. If you use Wade, get solutions manual for them.)
- 3) **On-line "Sapling" homework Problems:** You will be required to buy access to an on-line homework system (see later page in syllabus for details.) These problems will be computer-graded, will give you some practice and sometimes tips, and will help to keep you from procrastinating.

Test Schedule

Test 1 Wednesday, June 26	Ch 14 Ch 15 Ch 4	Organometallics Alcohols Alcohols and Alkyl Halides	100 pts
Test 2 Tuesday, July 9	Ch 13	Spectroscopy	50 pts
Test 3 Wednesday, July 24	Ch 17 Ch 20	Carbonyls: Addition Reactions Carbonyls: Enolate Reactions	100 pts
Test 4 Friday, Aug 2	Ch 21 Ch 18 Ch 19	Amines Carboxylic Acids Carboxylic Acid Derivatives and Nucleophilic Acyl Substitution Reactions	100 pts

Grading Summary		Tentative letter grades
Tests 1-4	350 points	A 90%
Take-Home Quizzes	20 points	B 80%
Online homework	70 points (prorated)	C 70%
+5 possible extra credit points for perfect attendance		D 56%

- **The instructor may lower but will not raise the percentage required for a letter grade.**

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Jasperse website: <http://web.mnstate.edu/jasperse/Chem342/chem342.htm> This will provide links to:

Notes for use in class	Recorded Lectures	Sapling	Quizzes
Practice Tests	Organic I Review	Textbook Info	Miscellaneous

Take-Home "Quizzes: <http://web.mnstate.edu/jasperse/Chem342/342Quizzes/Chem342Quizzes.html>

Two "quizzes" will be required, and there are several others that can be used as practice.

Attendance: Faithful attendance is important (and I do care if you come!) To reinforce your self-discipline, perfect attendance will be rewarded with 5 points of extra credit. Be sure to sign the attendance sheet each day!

Final Exam: The last test will **not be cumulative**. (Unless class prefers cumulative final?)

Recorded Lectures and On-Line Availability: I will try to record all of the regular class periods and post the movie-versions. I will also record and post **practice test sessions**, and perhaps extra problems or comments or pre-test tips.

Recorded Lectures: <http://web.mnstate.edu/jasperse/Chem342/chem342lectures-2013.htm>

Practice tests: <http://web.mnstate.edu/jasperse/Chem360/Practice%20Tests/Chem360PracticeTests.html>

Homework and Study Strategy: All assigned book problems represent what I consider to be reasonable test-level problems. There may be a few that are trickier than I'd put on a real test, but the majority are ones you ought to be able to do. All have worked-out answers in the Solutions Manual. **The homework is a great way to practice problem solving, assess your progress, and prepare for tests.** Since solutions are available, I will not collect the book homework. **The few take-home assignment problems that I collect and grade are no substitute for doing book homework problems! Likewise the on-line homework will not be sufficient.**

Putting off the extensive information in organic chemistry will only make it harder on you. After each class, try to study the day's notes and work all of the assigned book problems.

Some practical study thoughts:

1. General university policy is that an average student in an average class should study for two hours out of class for two hours in class to get an average grade.
 - Fact: Organic chemistry isn't really an average class!
2. I suggest reviewing the class notes and practice problems ASAP after a day's class, and going through the material at least twice.
3. Many students print an extra copy of class notes, and try to redo all the in-class problems on their own.
4. I suggest working Sapling/book problems associated with the sections covered in class right after that.
5. Reading the book: the textbook is a support resource. If you didn't understand some of the material in class, the book will frequently have a more complete and detailed discussion that will help you understand things.
6. If I decide I'm not going to take the time to study the class notes, to do Sapling and book problems, and to read the book, which one should I sacrifice first? Probably the book reading!
7. The practice tests are excellent rehearsal for the real tests.
 - <http://web.mnstate.edu/jasperse/Chem360/Practice%20Tests/Chem360PracticeTests.html>

Class E-Mail List

An email list may be used to notify you of special scheduling information or other miscellany. **The list uses your NDSU e-mail address.** You can have NDSU emails forwarded to a different address. (See the Information Technology desk, IACC-150, this building.)

- Note: A test e-mail has already been sent. If you did not receive it, it probably means either that your NDSU e-mail is not the address you look at and is not being forwarded to the address you look at, or else that your junk filter junked it!

In-Class Notes

<http://web.mnstate.edu/jasperse/Chem342/342Classbook/Classbook%20Chem%20342-All.pdf>

I have a very thorough set of notes that can be used in class. Included will be numerous examples and practice problems that I/we will work in class together. You should print the notes (NDSU's printers can print them on both sides of a page), 3-hole punch them, and keep them organized in a 3-ring binder.

Academic Honesty

It is assumed that students at NDSU have the integrity to complete tests on their own. Any student who is found to have cheated on a test will receive an F for that test or an F for the course, depending on the circumstances. A second infraction will result in an automatic F for the course. For a full description of the NDSU Code of Academic Responsibility and Conduct, see <http://www.ndsu.nodak.edu/policy/335.htm>.

Special Accommodations Students with disabilities who believe they may need an accommodation in this class are encouraged to contact the instructor as soon as possible.

Chemistry 342, Jasperse, Summer 2013 (38 days)			Reading Assignment
Date	Topic		
June 10	No Class		
1. June 11	Intro; Structure, Nomenclature, Properties, Synthesis Review		4.3-6,
2. June 12	Synthesis of Alcohols; Grignard Reactions		14.6, 19.12
3. June 13	Synthesis of Alcohols; Grignard Reactions		14.6,9; 16.12
4. June 14	Grignard Reactions; Reduction Reactions		14.9; 15.2,4
	Skip: 14.7,8,10-16		
5. June 17	Acidity of Alcohols, Oxidation of Alcohols		1.14,16; 15.9
6. June 18	Halogenation of Alcohols		4.7-14
7. June 19	Synthesis and Retrosynthesis		14.9
8. June 20	Catchup, Multistep Synthesis Problems; Tosylates;		8.12
9. June 21	Catchup, Multistep Synthesis Problems		Catchup
	Skip: 15.7,11,12-		
10. June 24	NMR Intro: Chemical Shift, Integration, and Splitting; NMR Problem Solving		13.1-6,25
11. June 25	¹ H NMR Problem Solving		13.4-12
12. June 26	Test #1 Covering Chapters 14-16.		Test 1
13. June 27	¹ H NMR Problem Solving		13.4-12
14. June 28	¹³ C NMR		13.14-19
	Skip: 13.22-24		
15. July 1	Infrared Spectroscopy		13.21-23
16. July 2	Integrated Practice Problems		Practice
17. July 3	Ketones/Aldehydes. Nomenclature, Properties, Intro, Synthesis		
July 4	NO CLASS		17.1-4
18. July 5	Synthesis and Reactions of Ketones/Aldehydes.		17.5-6
19. July 8	Reactions of Ketones/Aldehydes		17.7
20. July 9	Test #2 Covering Chapters 17 and 10.		Test 2
21. July 10	catchup		17.8,9
22. July 11	Reactions of Ketones/Aldehydes		17.10, 15-17
23. July 12	Enolates Intro. Acid/Base Considerations; Proton as Electrophile		20.1,13,16
	Skip: 17.11		
24. July 15	Halogenation; Alkylation; Ester Hydrolysis; Decarboxylation		20.14,9-11
25. July 16	The Aldol Reaction (Aldehyde/Ketone as Electrophile)		20.3,4
26. July 17	Claisen Reaction (Ester as Electrophile);		20.5-8
27. July 18	The Wittig Reaction; Catchup.		17.12,13
28. July 19	Catchup, Integrated Practice Problems.		Catchup
	Skip: 20.15,17-20		
29. July 22	Amines, Nomenclature, Properties, Basicity		21.1-4
30. July 23	Amines, Basicity		21.5-7
31. July 24	Test #3 Covering Chapters 19, 22, and 23.		Test 3
32. July 25	Reactions and Synthesis of Amines		21.9-12,17
33. July 26	Carboxylic Acid Nomenclature and Acidity		18.1-7
	Skip: 21.5,8,13-15,18		
34. July 29	Synthesis and Reactions of Acids		18.10-18
35. July 30	Interconversions Among Acids and Derivatives		19.1-11
36. July 31	Interconversions Among Acids and Derivatives, Catchup		19.12-20
37. Aug 1	Practice Problems, Catchup		-
38. Aug 2	Test #4 Chapters 24, 20, 21		Test 4

Tentative
Letter
Grades:
A: 90%
B: 80%
C: 70%
D: 56%

The above reading assignments assume you are using Carey, v8. See the following if you are using:

Wade, v6: <http://web.mnstate.edu/jasperse/Chem342/Other%20Books-Problems%20and%20Readings%20342/Chem342%20Wade%206.pdf>

Wade, v7: <http://web.mnstate.edu/jasperse/Chem342/Other%20Books-Problems%20and%20Readings%20342/Chem342%20Wade%207.pdf>

CHEMISTRY 342 PROBLEMS

Summer 2013

Dr. Craig P. Jasperse

These assume you are using Carey and Giuliano version 8. (I have lists that are appropriate if you instead have the 6th or 7th version of Wade. Contact me if that's your situation, or see:

[http://web.mnstate.edu/jasperse/Chem342/Other%20Books-](http://web.mnstate.edu/jasperse/Chem342/Other%20Books-Problems%20and%20Readings%20342/Other%20Books-Problems%20and%20Readings.htm)

[Problems%20and%20Readings%20342/Other%20Books-Problems%20and%20Readings.htm](http://web.mnstate.edu/jasperse/Chem342/Other%20Books-Problems%20and%20Readings.htm)

Ch	Recommended Book Problems
	Test 1
4	Alcohol basics and halogenation: 5, 7, 10, 23,a,c-h, 24b,f,i, 39a,d, 40a,c
14	Grignard reactions: 3, 4, 5a, 6, 8, 16a, 18b,d,h,km, 19, 20a,b,d,e
19	Esters with Grignards or LiAlH ₄ : 15, 17
15	Lots of Alcohol reactions: 2, 3, 10, 18a-c,f, 19a-e, 22a-d, 23a,c, 24b,c, 25a-c, 26a-e, 27d-f,h, 28a-f, 30a,c
	Test 2
13	Spectroscopy: 5, 6, 7, 9, 11, 12, 16, 18, 21, 32a-c, 33a-d, 35, 37, 43, 45, 46, 53, 55, 57
	Test 3
17	Aldehydes and Ketones: 1a,c, 2, 3, 5, 6, 10, 11a, 12, 14a-d, 23a, 26a,b,d,g-k,q,r, 27a,b,d,g-k,q,r, 28a,d, 29a,e, 31a-f, 33, 35, 36, 37a, 38a,b, 39a-d, 40, 44d,e, 48, 49
20	Enolate Chemistry: 1, 2, 3, 5, 6, 7, 9, 10, 13, 14a,b, 16, 18, 19, 20, 22, 23, 24, 27, 28, 29, 30, 39, 47a, 48, 52a,b, 53, 54c, 55, 58, 60a-g, 61, 62a,d,e, 64a,b, 69, 73, 74, 77a,b,e,f, 78b-e Decarbox: Ch 18: 11, 12 Wittig: Ch 17: 17, 18, 20, 44b,c
	Test 4
21	Amines: 1, 2, 3, 6, 13, 23a-c, 24a-g,i,j, 27a,b,d, 29a-c,e, 29, 34a,c,g, 36a-g,j, 37a-f, 38a, 39a-c, 42a
18	Acids: 3, 5a-c,f, 7, 8, 9, 10, 13a,b,e-j, 14a,c,d, 15, 16a,d, 17a-d,f, 19a,c,e,f, 20a,b,d,e, 21, 24a-c,e,f, 28, 30a, 34, 35, 37
19	Acid Derivatives: 1,c,d, 3, 5, 6a,b, 7, 8, 11, 12, 14, 18, 20, 22, 27d-f, 28b,c, 29a-c,h,j,k,n,o,t, 32a-d, 33a-d,f,g

Sapling OnLine Homework, version 2013**Getting on when you've already enrolled: (see lower down for enrolling at first)**

1. Website: <http://www.saplinglearning.com/>
2. Login
3. Click on your class
4. If you click on "Activities and Due Dates" in the upper left corner, that will list assignments.
5. Miscellaneous:
 - After you open an assignment, there is an option to "print" it. I like to write on paper and keep my work so I can study it later, for example. However, this will NOT print the "hints" which are often very helpful.
 - You can try a problem as many times as you like. But the scoring will cost you 5% of the points available (per problem) for each incorrect attempt.
 - **Jasperse can enter due-date extensions.**
 - Take some time with the introduction materials, including the "training assignment" and the "drawing tips and shortcuts" practice problems.
 - You can go back and work on things after they are due. So you can use these as a study tool later on if you wish (or when you're studying for PCAT or whatever....)

Re-enrolling for Organic II, if you Paid a 2-semester package fee for Organic I

To register for the course for those who purchased the two semester access, find the course. From there, if you paid the 2-semester access, there should be a button that says "Use your Sapling Learning Credit to enter the course" (provided you haven't used the credit on any other courses). Click the button and you should have access.

Enrolling at the beginning

1. Go to <http://saplinglearning.com>
 2. a. If you already have a Sapling Learning account, log in, click "View Available Courses", then skip to step 3. b. If you have a Facebook account, you can use it to quickly create a SaplingLearning account. Click "create account" located under the username box, then click "Login with Facebook". The form will auto-fill with information from your Facebook account (you may need to log into Facebook in the popup window first). Choose a password and timezone, accept the site policy agreement, and click "Create my new account". You can then skip to step 3. c. Otherwise, click "create account" located under the username box. Supply the requested information and click "Create my new account". Check your email (and spam filter) for a message from Sapling Learning and click on the link provided in that email.
 3. Find your course in the list (listed by school, course, and instructor) and click the link.
 4. Select your payment options and follow the remaining instructions. **NOTE: Sapling Learning costs \$29.99 for a single semester or \$49.99 for two semesters. You will be prompted before payment and asked if you would like to purchase two semesters for a discount. You will need to purchase two semesters in advanced to receive the multi-course discount. There is a 14 day grace period to access your courses before payment, and there is a 60 day refund policy. For more information on refunds, visit: <http://www.saplinglearning.com/help/?topic=9>**
- a) Once you have registered and enrolled, you can log in at any time to complete or review your homework assignments.
- a) During sign up - and throughout the term - if you have any technical problems or grading issues, send an email to support@saplinglearning.com explaining the issue. The Sapling support team is almost always more able (and faster) to resolve issues than your instructor and TAs.
