

Organic Chemistry II: Spring 2009 Syllabus

The University of Texas at Tyler

Department of Chemistry

Dr. Neil Gray

Instructor Contact Information and Office Hours

Instructor Contact Information

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Course Website

Note: Additional information, including the tentative course schedule can be found at the course blackboard website located at:

ccs.uttyler.edu/blackboard/

Regarding Prerequisites

Prerequisites: CHEM 1311 and CHEM 1312: General Chemistry I and II or equivalent.

I can't stress enough how vital your general chemistry preparation will be to your study of organic chemistry. Since our goal is the study of organic chemistry, which is a very large field, we will not have time to review all the

Office Hours

In general it has been my policy to be available for help anytime I am at the University. I suggest that if you require extended help outside my normal office hours that you schedule an appointment.

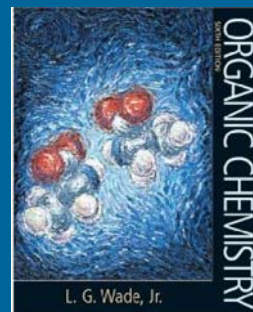
MWF 10:00-11:00

TR 11:00-12:00

Course Description

Emphasis on structure-reactivity relationships, nomenclature, stereochemistry, reaction pathways, and synthesis. **Prerequisites:** CHEM 3404-3105 or eight semester hours of general chemistry. Course fee required

topics you should have learned in general chemistry. If it has been some time since you had general chemistry, or you feel that the course you had was less than adequate, it is important that you dig out your general chemistry book and review. This course will proceed as if you recently had a thorough study of general chemistry.



Textbook

L.G. Wade

Organic Chemistry
 (6th Edition)

ISBN: 0131478710

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“This course is organized to discourage the student from relying only memorization”

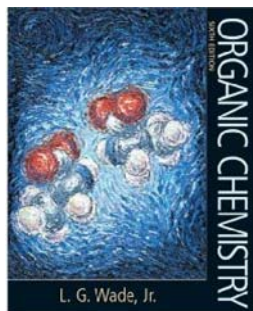
Course Overview

This course is organized to discourage the student from rote memorization. The functional groups have been organized around mechanistic similarities—electrophilic additions, radical substitutions, nucleophilic substitutions, eliminations, electrophilic aromatic substitutions, nucleophilic acyl substitutions, and nucleophilic additions. This organization allows a lot of material to be understood based on unifying principles of organic reactivity.

Bioorganic material is introduced throughout this course to encourage students to recognize that organic chemistry and bio-

chemistry are not separate entities, but two parts of a continuum of knowledge. For example, students learn not just how carboxylic acids are activated for reaction in the laboratory, but also how they are activated for reaction in biological systems and why the mode of activation differs in the two situations. Once students learn how such things as electron delocalization, leaving-group tendency, electrophilicity, and nucleophilicity affect the reactions of simple organic compounds, they can appreciate how these same factors are involved in the reactions of more complicated organic molecules such as enzymes, nucleic acids, and vitamins.

Textbook and Other Materials



Text Book (Required)

- L.G. Wade
- Organic Chemistry (6th Edition)
- ISBN: 0131478710

Solutions (Required)

- Jan Simek
- Solutions Manual for Organic Chemistry (6th Edition)
- ISBN: 0131478826

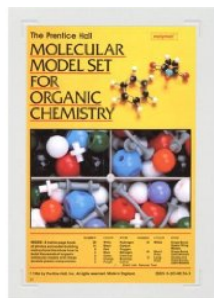
Highly Recommended

Prentice Hall Molecular Model Set, by Prentice Hall © 1998, ISBN: 0205081363

Molecular Model Kit

A set of molecular models will be very useful in helping you to visualize 3-dimensional structures, but are not required. These can be obtained from the University Bookstore. Molecular models will not

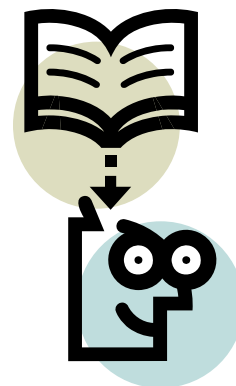
be allowed during exams or quizzes. Although molecular models are not required, they are **strongly** recommended. NOTE: Any Organic Molecular Model Set will do. See the following link for a suggested style.



Student Learning Outcomes

By the end of the course students should be able to:

- Understand and describe key principles of atomic and molecular structure, chemical bonding, molecular geometry, conformational analysis, and stereochemistry.
- Identify the name of an organic molecule by observing its structure and vice versa, draw the structure of an organic molecule from an appropriate common or systematic (IUPAC) name.
- Recognize centers of chirality as well as enantiomeric and diastereomeric relationships.
- Predict the outcome of any given set of organic molecules and synthetic reagents using the principles of basic patterns of reactivity and/or identify adequate (appropriate) starting materials to synthesize a simple organic molecule which contains one of the common functional groups.
- Predict the overall three-dimensional structure of relatively simple organic molecules and ionic or radical species that contain the common functional groups by applying the basic principles of bonding, hybridization and conformation analysis.
- Rationalize the stereochemical and regiochemical course of standard organic reactions in terms of reaction mechanisms based on principles of energetics, reaction kinetics and thermodynamics.
- Relate organic structure to chemical properties and reactivity.
- Predict the products and mechanisms of the reactions of alkanes, alkenes, alkynes, haloalkanes, and alcohols.



Blackboard Learning System

The course website will be hosted on UT Tyler's Blackboard (Release 6) server. This site will contain a significant amount of information that will help you in this course, in addition to being one method through which you can check your current grade. Access to blackboard is required for this course. This access is free and easy to initialize. To enroll in this course's website on blackboard you will

need a course access code. This code is NOT your login password, but a special code that will allow you access to a specific course on blackboard.

Our access code = **buckyball**

Do not share this code with anyone. Once you have logged into blackboard, you will use this code to enroll in **2008-FALL-CHEM-3342.001 - Organic Chemistry I.**



Blackboard will be a critical part of the course, so register soon and visit the site often.

Blackboard Cont.

If you have used the UT Tyler Blackboard server in the past, you will still be able to “Login” to the Blackboard server using the same “USERNAME” AND “PASSWORD” you have used in the past.

If you are new to the UT Tyler Blackboard server you will use the following instructions to “Login” to the Blackboard server.

1. Go to www.blackboard.uttyler.edu
2. Click the “Login” button
3. Enter your “USERNAME”
4. (Your “USERNAME” is a combination of your first name, your middle initial and your last name as you gave them during registration. You can not use apostrophes, accent marks, underscores, or any type of punctuation except a hyphen. You also can not use Jr., III or other similar endings. An example of a “USERNAME” might be johnpsmith.)
5. Enter your “PASSWORD”
6. (Your password will be the last four digits of your social security number.)
7. Click the “Login” button

This will take you to your personal Blackboard home page. You will see this page

every time you “Login” to the Blackboard server. This is NOT your course; this is just your Blackboard home page.

Your courses, once you have ENROLLED in them, will be listed in the area on your home page titled “My Courses” under the subheading titled “Courses in which you are participating:”.

On this page you will also find areas called “My Announcements”, “My Calendar” and “My Tasks”. These areas may or may not have content as you progress through the semester.

On the left side of your home page you will find a column of “Tools” with the last tool being “Personal Information. You should click on “Personal Information” and “Change Password” to change your password to a more secure password.

If you ever forget your password there is a password recovery link on the Blackboard “Login” screen just below where you would type in your password. Click on the link, “Forgot your password?” and follow the instructions.



Disability Statement

If you have a disability, including a learning disability, for which you request disability support services/accommodation(s), please contact Ida MacDonald in the Disability Support Services office so that the appropriate arrangements may be made. In accordance with federal law, a student requesting disability support services/accommodation(s)

must provide appropriate documentation of his/her disability to the Disability Support Services counselor. For more information, call or visit the Student Services Center located in the University Center, Room 282. The telephone number is 566-7079 (TDD 565-5579). Additional information may also be obtained at the following UT Tyler Web address: <http://>

Social Security Statement

It is the policy of The University of Texas at Tyler to protect the confidential nature of social se-

curity numbers. The university has changed its computer programming so that all students have a unique

Grade Replacement Policy

If you are repeating this course for a grade replacement, you must file an intent to receive grade forgiveness with the registrar by the 12th day of class. Failure to file an intent to use grade forgiveness will result in both the original and repeated

grade being used to calculate your overall grape point average. A student will receive grade forgiveness (grade replacement) for only three (undergraduate student) or two (graduate student) course repeats during his/her career at UT Tyler. (2006-08 Catalog, p. 35)

Course Grade

Your course grade will be determined as follows.

Major Exams (3) 75%
Final Exam 25%

If higher, your final exam grade will be substituted for your lowest exam grade.

**The final exam is
your safety net
for one exam
that goes poorly.**



No, not that kind!

Major Examinations

There will be 3 major exams. Each exam is worth 100 points and together account for 75% of your final grade.

No exam scores will be dropped; however, your final exam grade will replace your lowest exam grade if it is

higher. All exams are comprehensive; however, the material covered since the previous exam will be *strongly* emphasized.

Exams will cover material from the text, discussed in the lecture, and any other assigned mate-

rial. You will be responsible for every part of every chapter covered, whether discussed in class, as assigned reading, or in problem sets. Even material that has not been discussed at length in lecture is subject to examination. Any exceptions

Final Examination

A mandatory (no makeup allowed), comprehensive final exam will be given and will account for 25% of your final course grade. According

to the final exam schedule our final will be **Thursday, May 7, 9:30 a.m.-11:30 a.m.**

Makeup Examinations

Makeup exams will be given for university excused absences only. See the UT Tyler Undergraduate Academic Policies in the catalog for details on excused absences. I will be very strict on this policy and will not allow makeup exams for any reason that is unexcused or not properly requested according to university policy. All makeup exams must be scheduled and

taken *prior* to the exam date, except in the case of a documented medical emergency or severe illness.

Missing a second exam will require a special meeting between the student and professor to determine an appropriate action. Such an action may include but is not limited to withdrawal.

Attendance

Class attendance is the responsibility of the student. Class participation is a significant measure of performance, and non-attendance may adversely affect a student's

grade. When a student's absences become excessive, the instructor may recommend that the student initiate a withdrawal.



The Importance of the Final Exam

We will not be doing quizzes this semester. Instead, your lowest exam grade will be replaced by your final exam. If you miss an exam, you will receive a zero, making it your lowest grade and a candidate for replacement. Since all

of the exams will be difficult this semester, I advise you to make every exam and perform the best you can on each one. Don't miss an exam and take the chance on doing poorly on another. You will then be stuck with a low grade.

Regrading Policy

Even though I will be very fair and careful in the grading of your exams and quizzes, errors in grading are possible. Questions concerning the grading of an exam or quiz should be submitted to me in writing along with the suspect exam within 2 class days after the exam

was returned to you. Alternatively you can see me during my office hours (or any other time you find me available) with the suspect exam or quiz in hand. All exam scores will be considered final one week after the exam is returned to you.

LAST DAY TO DROP ANY OR ALL CLASSES

March 25, 2009

Courses may be dropped online through Campus Connect until 4 p.m. on the last day of online (early) registration. After that time, all drops and/or withdrawals must be completed through the Registrar's Office, either in person, by fax or by mail. Faxed or mailed drop/withdrawal requests must include the student's name, student ID number, course(s) to be dropped, date, student's signature, contact phone number and copy of

a photo ID (driver's license, student ID, etc.). Requests should be mailed to UT Tyler Registrar's Office, 3900 University Blvd, Tyler, TX 75799 or faxed to (903)565-5705. Students are advised to meet with their instructor(s) and/or academic advisor prior to dropping any classes. Dropping or withdrawing from classes may affect financial aid eligibility, veteran's benefits, athletic eligibility, or international student status. Students should consult with those departments prior to dropping or withdrawing.

*LAST DAY TO DROP
ANY OR ALL CLASSES*

March 25, 2009

Assignments

I will regularly assign work to be completed outside of the normal class time. All assignments will be posted on the course website, so check there regularly. Such assignments will include readings from the text, class notes, and handouts, in addition to working problems using the concepts learned. It is very important that you complete such assignments in

a timely manner. The worst thing you could possibly do is get behind. Work your homework in a notebook, so that you will have easy access to it when studying and/or seeing me for help. Homework will not be graded, but you should bring it to class with you. I have been known to casually ask a student to see an assignment.

The worst thing you can do is get behind in this course! Keep up with all assignments.

Regarding Problem Assignments

It is important that you read each assigned section or chapter as we discuss it, or better yet *before* we discuss it. The best way to develop a proper understanding of organic chemistry is to solve problems using concepts discussed in the text and/or in lecture. The text is organized such that examples and problems follow the discussion of a concept or series of similar concepts. I would suggest that you sit down to read with pencil and paper handy and work through each example and problem as you reach them. If you get stumped on a particular problem review the relevant text material and lecture notes and then try it again. Feel free to see me for help during my office hours, or during the help sessions. Work hard on the problem before surrendering to the temptation to look in the study guide.

Simply scanning the answers provided in the study guide will not be enough to earn a passing grade. The best thing you could possibly do to improve your grade is to diligently, and consistently work and rework problems. Although some memorization is necessary in learning organic

chemistry, it is much more important to *understand* the concepts involved and how to apply them. Portions of exams will involve problems that will be difficult to solve without an adequate understanding of the concepts involved. I would suggest that you keep a notebook to work your problems in. Bring this notebook when you come to ask for help. Such a notebook will help keep your work organized and easily accessible when preparing for exams and quizzes.

To encourage you to read with pencil in hand, every problem embedded in the text of each chapter is automatically included in the problem assignment for that chapter. Problems assigned from the end of each chapter, and any other problems will be distributed in lecture. **All assigned problems are fair game on quizzes and exams.**



No Tolerance Cheating Policy

Under **NO** circumstances will cheating be tolerated. The minimum penalty for cheating will be a zero on the exam or quiz in ques-

tion. **Maximum penalties, up to university expulsion will be pursued in extreme or repeat cases.**

Tentative Topic List

We will begin with Chapter 7 and study selected topics through Chapter 21.

JULY				
M	T	W	TH	F
	1	2	3	4
7	8	9	10	11
14	15	16	17	18
21	22	23	24	25
28	29	30	31	

AUGUST				
M	T	W	TH	F
				1
4	5	6	7	8
11	12	13	14	15
18	19	20	21	22
25	26	27	28	29

SEPTEMBER				
M	T	W	TH	F
1	2	3	4	5
8	9	10	11	12
15	16	17	18	19
22	23	24	25	26
29	30			

OCTOBER				
M	T	W	TH	F
		1	2	3
6	7	8	9	10
13	14	15	16	17
20	21	22	23	24
27	28	29	30	31

NOVEMBER				
M	T	W	TH	F
3	4	5	6	7
10	11	12	13	14
17	18	19	20	21
24	25	26	27	28

DECEMBER				
M	T	W	TH	F
1	2	3	4	5
8	9	10	11	12
15	16	17	18	19
22	23	24	25	26
29	30	31		

JANUARY				
M	T	W	TH	F
			1	2
5	6	7	8	9
12	13	14	15	16
19	20	21	22	23
26	27	28	29	30

FEBRUARY				
M	T	W	TH	F
2	3	4	5	6
9	10	11	12	13
16	17	18	19	20
23	24	25	26	27

MARCH				
M	T	W	TH	F
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9	10	11	12	13
16	17	18	19	20
23	24	25	26	27
30	31			

APRIL				
M	T	W	TH	F
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13	14	15	16	17
20	21	22	23	24
27	28	29	30	

MAY				
M	T	W	TH	F
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11	12	13	14	15
18	19	20	21	22
25	26	27	28	29

JUNE				
M	T	W	TH	F
1	2	3	4	5
8	9	10	11	12
15	16	17	18	19
22	23	24	25	26
29	30			

NOTES

2008

2009

ACADEMIC YEAR