

Instructor:	Dr. Alvan C. Hengge, Widtsoe 343 Phone: 797-3442, Email: alvan.hengge@usu.edu
Meeting Time/Place:	MWF 10:30 - 11:20 am, and Thu. 3:30 - 4:20 pm, ENGR 103
Office Hours:	Mondays and Wednesdays 9:00 -10:00 a.m.; Thursdays 1:30 - 2:30 p.m. Other times by appointment.
Texts:	"Organic Chemistry", Special USU edition, OR the 5 th edition, by Paula Yurkanis Bruice, and the accompanying Study Guide and Solutions Manual.
Model Kit:	Not required, but helpful. Available in Chem Stores (first floor of Widtsoe). The best kit is the HGS Polyhedron Molecular Model Set, for about \$20.
On-Line Material:	Use of the Blackboard Vista site is mandatory. You will take quizzes, and in addition, you can see your test grades, get day-to-day information about where you should be in your readings and practice problems in the text, chat with other students in the course about problems, etc. To log on, go to www.bb.usu.edu . Your username is your banner id, and your password is your banner pin.

TENTATIVE Course Outline and Exam Schedule
(check the calendar posted on the Blackboard site for current information).

<u>Week</u>	<u>Dates</u>	<u>Chapters</u>
1	1/5 - 1/9	Chapter 12
2	1/12 - 1/16	Chapters 12, 13
3	1/21 - 1/23 (No class January 19)	Chapter 13
4	1/26 - 1/31	Exam 1; Chapter 14
5	2/2 - 2/6	Chapters 14, 15
6	2/9 - 2/13	Chapters 15, 16
7	2/17 - 2/20 (Attend Monday classes on Tues. 2/17)	Chapter 16
8	2/23 - 2/27	Exam 2; Chapter 17
9	3/2 - 3/6	Chapters 17, 18
10	3/9 - 3/13 (No classes)	Spring Break
11	3/15 - 3/19	Chapters 18, 19
12	3/23 - 3/27	Chapter 20
13	3/30 - 4/3	Exam 3, Chapter 21
14	4/6 - 4/10	Chapters 21, 22
15	4/13 - 4/17	Chapters 22, 26
16	4/20 - 4/24	Chapter 26
FINAL EXAM:	FRIDAY, MAY 1 9:30 - 11:20 a.m..	

Assessment:

Assessment involves measuring student progress as well as teaching effectiveness. The following assessment strategies have been incorporated into this course.

- A pre-test/post-test approach will be used to measure comprehension and teaching of important concepts. The pre-test will be administered in class. The multiple choice questions of the pre-test will reappear in the final exam, in slightly altered form, to assess teaching and learning progress during the semester. If weaknesses are observed in specific subject areas, teaching methods will be reevaluated.
- Student evaluations will be used to evaluate course/instructor strengths and weaknesses. Constructive suggestions from past students have been incorporated into the course design, and will continue to be.

General Learning Objectives for 2320***

- Know what molecular events give rise to mass spectrometry, infrared spectroscopy, and ultraviolet spectroscopy, and be able to use such spectra to identify the structures of organic molecules.
- Know the origin of nuclear magnetic resonance in terms of interaction between nuclei, magnetic fields and radiofrequency radiation; be able to use proton and carbon NMR spectra to identify the structures of organic molecules.
- Be able to identify aromatic and antiaromatic compounds, and know the chemical consequences of aromaticity; be able to write the mechanism for and predict the products of electrophilic aromatic substitution.
- Be able to explain and to predict the effect of substituents on the reactivity and regiochemistry of electrophilic aromatic substitution.
- Know the structures and chemical properties of carboxylic acid derivatives; be able to write the mechanisms for nucleophilic substitution and hydrolysis reactions of such compounds, and to predict the products of such reactions.
- Be able to write mechanisms for nucleophilic addition reactions and for addition-elimination reactions of aldehydes and ketones, and be able to predict the products of such reactions.
- Be able to describe the general structure of a carbohydrate, and the major reactions of carbohydrates.
- Be able to write the structure of an amino acid, and explain how amino acids form proteins and their overall chemical structure and reactivity.
- Know the general structures of lipids and fatty acids and their chemical and physical properties.

***Detailed learning objectives for each chapter are available in the chapter study guides, which can be found on the Blackboard site for this class.

Grading Scheme: Point Distribution:
Best two out of three one-hour exams (100 pts each)
Ten quizzes (10 pts each)
Comprehensive Final (200 pts)
Total Points: 500 pts

Grade Assignment: A student's grade for the course is determined solely by exam and quiz performance. The final grade percentile ranges given below are guaranteed. The actual grade ranges may be curved slightly lower, depending on the overall class average.

A, A-	445 points or higher
B- to B+	390 points or higher
C- to C+	330 points or higher
D- to D+	265 points or higher

Course Procedures and Regulations:

1. What is covered on the exams? Exams may cover any material from lectures and from assigned sections of the text. Not all material assigned in the text will be covered in class, especially when this material is review from the first semester. Use the study guides listed on the Blackboard site for specific guidelines for what you need to learn from each chapter.

The exams are meant to test your understanding of the topics covered in lecture, not your ability to repeat memorized problems. Expect to see exam questions that are different from practice or quiz problems. These are designed to see if you can use the principles you have learned to solve problems that you have not previously seen. Practice problems and past exams will be available on the Blackboard site.

2. There will be no make-up exams. An exam may be taken in advance with a valid excuse (i.e. funeral, surgery) by prearrangement. The lowest score among the three one-hour exams will be dropped. A missed examination will count as the one that will be dropped. A second missed exam, **for any reason**, will receive a grade of F. Any questions concerning exam grading must be discussed with me within two days of the return of the exam. No grading adjustments will be made after this time.

3. Quizzes will be given through the Blackboard system. They will consist of ten multiple-choice questions, chosen randomly from a bank of questions. They will be open-book, with a time limit of 30 minutes, and can be taken as many times as you want, with your highest score being recorded. However, you must take each quiz within the time frame posted. You will benefit the most from the quizzes if you prepare and try to take them without help from the book or your notes.

YOU ARE RESPONSIBLE FOR YOUR QUIZ GRADES:

- 1) Quizzes are open for seven days – it is your responsibility to monitor the calendar and assessment sections of Blackboard, and to insure that you take the quiz before it closes and that a score is properly recorded.
- 2) Quizzes do not all open and close on the same day of the week. Pay attention to the calendar.
- 3) Do not wait until the last open day to take a quiz. No accommodations will be made for last minute emergencies or personal computer crashes that prevent you from taking a quiz.

4. Scheduling of the Final Exam. It is University policy that unless you have three scheduled final exams on the same day, you must take the final exam for this course at the officially scheduled time. Permission to take a final exam at any other time can only be obtained from the Dean of the College of Science.

5. Drop/Add Policies. The USU policy is described in the Spring Schedule Bulletin on page 107. August 31 is the last day to add a class without an instructor's signature. The last day to add is January 26th. After that any adds are given only for reasons of registration error, and the Provost's Office (not the Dean's Office) must approve the add. Pages 106-107 also describe the drop policy. In short, a student may drop a class without any

notation on the transcript by January 26th. After that date, any drop receives a permanent "W" notation on the transcript. After 60 percent of a class is completed, your advisor must approve of a drop, and the "W" is accompanied by the grade in the class at the time of the drop. Finally, after 75% of a class is completed, a student may not drop a class for any reason. See the Spring 2009 Schedule of Classes, page 4, for exact dates.

6. Incomplete grade policy. The university policy on giving a grade of Incomplete will be strictly followed. See the section on Academic Policies in the Spring Semester Schedule of Classes for current policies.

7. Disability accommodations. Students with physical, sensory, emotional or medical impairments may be eligible for reasonable accommodations in accordance with the Americans with Disabilities Act and Section 504 of the Rehabilitation Act of 1973. All accommodations are coordinated through the Disability Resource Center (DRC) in Room 101 of the University Inn, 797-2444 voice, 797-0740 TTY, or toll free at 1-800-259-2966. Please contact the DRC as early in the semester as possible. Alternate format materials (Braille, large print or digital) are available with advance notice.

8. Use of Office Hours: The main function of office hours is to discuss and solve problems that you may have understanding the course material or in working practice problems. Formulate specific questions in advance ("I don't understand" is not a question). If you have a question about a practice problem, bring any partial work you have completed. If several students come to office hours at once I may convene a group question session in order to be fair to all.

Suggestions for Success in This Course:

- This is not a memorization course; to be successful on the exams you will need to understand the principles and use them to solve problems. The only way to become expert at doing this is to **WORK AS MANY PRACTICE PROBLEMS AS YOU HAVE TIME FOR!** The suggested practice problems given in the on-line study guides for each chapter were chosen on the basis of content that I would be likely to ask on an exam. This list is the bare minimum that you should complete as part of your exam preparation. Working additional problems at the ends of the chapters is recommended. Studying and working practice problems in groups is very beneficial if everyone contributes.
- Use the practice tests in the Study Guide, at the end of each chapter's problem solutions, to help you prepare for exams.
- To be successful, you should expect to spend at least an hour of work outside of class (studying and working practice problems) for each hour of lecture.
- **Keep up** with the lecture and reading material. Getting behind in this course leads to disaster. You will benefit more from the lectures if you read the material in advance.