CHEM 2322-001 – Organic Chemistry II
Summer 2016, 2nd Five Week Session

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Office Hours: Monday-Thursday, 2:00-3:30 PM

Section Information: CHEM 2322-001 meets Monday-Thursday, 8:00-10:00 AM, in CRB 114.

Description of Course Content: A comprehensive survey of the chemistry of carbon compounds: their structure, properties, bonding, stereochemistry, reactions, and reaction mechanisms. An introduction to mass spectrometry, infra-red and nuclear magnetic resonance spectroscopy and its application in structure determination. A description of carbonyl chemistry and its relevance to biomolecules, amino acids, carbohydrates, and lipids. A description of the chemistry of dienes, benzene and aromatic substitution reactions, and the chemistry of amines.

Required Textbooks and Other Course Materials:

Organic Chemistry, Second Edition by David Klein
Student Study Guide & Solutions Manual, Second Edition by David Klein
Molecular Model Set (recommended)
Course Lecture Notes (available at the UT-Arlington Bookstore)

Course Prerequisites: The prerequisite for CHEM 2322 is successful completion of Chem 2321 with a grade of C or better.

Exam Dates: ***(Please note that Exam Dates are tentative. Any changes to Exam Dates will be announced in class.)***

Exam 1 (Ch. 15 and 16)	**Tuesday, July 19**
Exam 2 (Ch. 17, 18, and 19)	**Tuesday, July 26**
Exam 3 (Ch. 20 and 21)	**Tuesday, August 2**
Exam 4 (Ch. 22 and 23)	**Wednesday, August 10**
Final Exam (Ch. 15-24 Comprehensive)	**Monday, August 15**

Other Important Dates:

July 12	First day of class
July 18	Census date
August 2	Last day to drop classes; submit requests to advisor prior to 4:00 PM
August 11	Last day of class
August 15	Final Exams

Drop Policy: Students may drop or swap (adding and dropping a class concurrently) classes through self-service in MyMav from the beginning of the registration period through the late registration period. ***After the late registration period, students must see their academic advisor to drop a class or withdraw.*** Undeclared students must see an advisor in the University Advising Center. Drops can continue through a point two-thirds of the way through the term or session. It is the student's responsibility to officially withdraw if they do not plan to attend after registering. ***Students will not be automatically dropped for non-attendance***. Repayment of certain types of financial aid administered through the University may be required as the result of dropping classes or withdrawing. For more information, contact the Office of Financial Aid and Scholarships (http://wweb.uta.edu/ses/fao).

Paperwork: When dropping the course, ***you*** *are responsible for seeing that all of the proper paperwork is completed and submitted to your academic advisor. If this paperwork is not completed, you will receive a letter grade corresponding to your earned grade, including zeros for all missed work.*

Expectations for Out-of-Class Study: Beyond the time required to attend each class meeting, students enrolled in this course should expect to spend at least an additional 20 hours per week of their own time in course-related activities, including reading required material, completing assignments, preparing for exams, etc.

Grading:	Mid-term exam average	75%	
	Comprehensive Final Exam	25%	Monday, August 17, 2015

Four mid-term exams plus a Comprehensive Final Exam will be given. These exams will cover the reading, lecture material, and assigned problems. *Due to the nature of Organic Chemistry, each exam is comprehensive.*

Make-up Policy: *No make-up exams will be given, and any missed exams will result in a grade of zero. However, the final exam score will replace the lowest mid-term exam score if it is to the student's benefit.*

Grade assignments:

Average	Letter Grade
≥ 88.00%	A
≥ 75.00%	B
≥ 65.00%	C
≥ 55.00%	D
< 55.00%	F

Homework: *Working through problems is the best way to learn the material in this course.* Each student is expected to work homework problems found in the textbook. Although these problems will not be collected or graded, you are responsible for working them out. Be advised that just doing the simple drill problems is not adequate preparation; you should do the longer problem-solving type of questions as this really addresses whether you adequately understand the material.

Examination Needs: You must bring the following to each examination:

UTA Student ID Card
No. 2 pencils with eraser
Scientific Calculator (only non-graphing calculators are allowed; you may not use a graphing calculator)
Students are <u>not</u> allowed to have access to cell phones or digital pagers during any exam.

Cell Phones: Please silence all cell phones prior to class. *Texting during class is inappropriate and will not be tolerated.*

Topics to be Covered:

Chapter 15. Infrared Spectroscopy and Mass Spectrometry
Chapter 16. Nuclear Magnetic Resonance Spectroscopy
Chapter 17. Conjugated Pi Systems and Pericyclic Reactions
Chapter 18. Aromatic Compounds
Chapter 19. Aromatic Substitution Reactions
Chapter 20. Aldehydes and Ketones
Chapter 21. Carboxylic Acids and Their Derivatives
Chapter 22. Alpha Carbon Chemistry: Enols and Enolates
Chapter 23. Amines
Chapter 24. Carbohydrates

Attendance: Faithful attendance is mandatory (excessive absences will lower the final grade), but attendance alone is not sufficient. Active participation is essential for success. Participation includes advance preparation of reading assignments, coming to class prepared with molecular models, and involvement with classroom discussions. Questions are always welcomed; I will be happy to re-explain concepts. Successful participation in the classroom will frequently stimulate continuing discussion outside the classroom, both with fellow students and with the instructor. These ongoing interactions will prove valuable, and they are to be encouraged. An important point is that class time is limited, and I will not have time to cover all of the material given as reading assignments. You are responsible for all of the material covered in the lectures, the assigned text, and the problems.

Electronic Communication: UT Arlington has adopted MavMail as its official means to communicate with students about important deadlines and events, as well as to transact university-related business regarding financial aid, tuition, grades,

graduation, etc. All students are assigned a MavMail account and are responsible for checking the inbox regularly. There is no additional charge to students for using this account, which remains active even after graduation. Information about activating and using MavMail is available at http://www.uta.edu/oit/cs/email/mavmail.php.

Student Learning Outcomes:
Students will extend and deepen their knowledge of functional groups. They will learn spectroscopic techniques important in organic chemistry and be able to deduce chemical structures using spectroscopy. The students will learn aromatic chemistry and mechanisms of electrophilic substitution. They will also learn the chemistry and mechanisms involving carbonyl compounds and carboxylic acid derivatives. They will learn about both synthetic and natural polymers such as carbohydrates and proteins. They should be able to write multi-step syntheses using the reactions they have learned.

Academic Integrity: All students enrolled in this course are expected to adhere to the UT Arlington Honor Code:

> *I pledge, on my honor, to uphold UT Arlington's tradition of academic integrity, a tradition that values hard work and honest effort in the pursuit of academic excellence.*
>
> *I promise that I will submit only work that I personally create or contribute to group collaborations, and I will appropriately reference any work from other sources. I will follow the highest standards of integrity and uphold the spirit of the Honor Code.*

Per UT System *Regents' Rule* 50101, §2.2, suspected violations of university's standards for academic integrity (including the Honor Code) will be referred to the Office of Student Conduct. Violators will be disciplined in accordance with University policy, which may result in the student's suspension or expulsion from the University.

Student Support Services: UT-Arlington provides a variety of resources and programs designed to help students develop academic skills, deal with personal situations, and better understand concepts and information related to their courses. Resources include tutoring, major-based learning centers, developmental education, advising and mentoring, personal counseling, and federally funded programs. For individualized referrals, students may visit the reception desk at University College (Ransom Hall), call the Maverick Resource Hotline at 817-272-6107, send a message to resources@uta.edu, or view the information at www.uta.edu/resources.

Chemistry Clinic: The Chemistry Clinic, located in Room 318 Science Hall, will be staffed with tutors available to answer your questions related to lecture and homework. This service is free for all UT-Arlington students enrolled in Chemistry 2322. Unless otherwise posted, the Chemistry Clinic will be open the following hours:

Monday – Thursday, 9:00 AM – 7:00 PM
Friday, 9:00 AM – 5:00 PM

(Note: The Chemistry Clinic will be closed during Saturdays and Sundays, as well as any day that the University is closed due to inclement weather.)

Science Education and Career Center: The Science Education and Career Center, located in Room 105 of the Life Science Building, provides a variety of materials for assisting Chemistry students, including old Chemistry 2322 exams.

Problem Sessions: Videos of Chem 2322 Problem Sessions from a previous semester are posted on Blackboard. Emphasis will be given to practicing the skills learned in the Chem 2322 lecture. Although watching these videos is optional, students are strongly encouraged to be very familiar with all of the problems worked in the problem sessions.

Strategies for Succeeding in Chemistry 2322:

1. Attend *every* lecture.
2. Prior to class, read the chapter which will be covered in lecture.
3. Review your lecture notes after each class. Correct obvious errors and note topics which require further study or clarification.

4. Work all of the suggested homework problems. Do not look in the solutions manual until you have given your best effort to solve the problem on your own.
5. Use practice tests available from the Science Learning Center.
6. Spend the necessary amount of time studying chemistry. The rule of thumb for succeeding in Chemistry is three hours of study for every hour of lecture. This means that at a minimum you should plan to study Chemistry twenty hours each week during the intense five-week summer schedule.
7. Don't procrastinate. These concepts take time to sink in, and you may have to practice these exercises over a period of many days in order master the necessary skills.
8. Form a study group. This is your first avenue for getting help. Be able to communicate with each other on short notice, not just before class.

Student Feedback Survey: At the end of each term, students enrolled in classes categorized as lecture, seminar, or laboratory shall be directed to complete a Student Feedback Survey (SFS). Instructions on how to access the SFS for this course will be sent directly to each student through MavMail approximately 10 days before the end of the term. Each student's feedback enters the SFS database anonymously and is aggregated with that of other students enrolled in the course. UT Arlington's effort to solicit, gather, tabulate, and publish student feedback is required by state law; students are strongly urged to participate. For more information, visit http://www.uta.edu/sfs.

Final Review Week: A period of five class days prior to the first day of final examinations in the long sessions shall be designated as Final Review Week. The purpose of this week is to allow students sufficient time to prepare for final examinations. During this week, there shall be no scheduled activities such as required field trips or performances; and no instructor shall assign any themes, research problems or exercises of similar scope that have a completion date during or following this week *unless specified in the class syllabus*. During Final Review Week, an instructor shall not give any examinations constituting 10% or more of the final grade, except makeup tests and laboratory examinations. In addition, no instructor shall give any portion of the final examination during Final Review Week. During this week, classes are held as scheduled. In addition, instructors are not required to limit content to topics that have been previously covered; they may introduce new concepts as appropriate.

Title IX: The University of Texas at Arlington does not discriminate on the basis of race, color, national origin, religion, age, gender, sexual orientation, disabilities, genetic information, and/or veteran status in its educational programs or activities it operates. For more information, visit ***uta.edu/eos*** . For information regarding Title IX, visit ***uta.edu/titleix*** .

Disability Accommodations: UT Arlington is on record as being committed to both the spirit and letter of all federal equal opportunity legislation, including *The Americans with Disabilities Act (ADA), The Americans with Disabilities Amendments Act (ADAAA),* and *Section 504 of the Rehabilitation Act.* All instructors at UT Arlington are required by law to provide "reasonable accommodations" to students with disabilities, so as not to discriminate on the basis of disability. Students are responsible for providing the instructor with official notification in the form of a letter certified by the Office for Students with Disabilities (OSD). Students experiencing a range of conditions (Physical, Learning, Chronic Health, Mental Health, and Sensory) that may cause diminished academic performance or other barriers to learning may seek services and/or accommodations by contacting:
The Office for Students with Disabilities, (OSD) www.uta.edu/disability or calling 817-272-3364.
Counseling and Psychological Services, (CAPS) www.uta.edu/caps/ or calling 817-272-3671.

Only those students who have officially documented a need for an accommodation will have their request honored. Information regarding diagnostic criteria and policies for obtaining disability-based academic accommodations can be found at www.uta.edu/disability or by calling the Office for Students with Disabilities at (817) 272-3364.

Emergency Exit Procedures: Should we experience an emergency event that requires us to vacate the building, students should exit the room and move toward the nearest exit. When exiting the building during an emergency, one should never take an elevator but should use the stairwells. Faculty members and instructional staff will assist students in selecting the safest route for evacuation and will make arrangements to assist individuals with disabilities.