

**Class Meetings:** M/W, 6:00-7:50 PM, 121 Science Hall (SH)  
**Office Hour:** M/W, 5:00-5:50 PM (or by appointment), 202 CRB

**Instructor:** Frank W. Foss Jr., Ph.D.  
**Office:** 202 CRB  
**Telephone:** 817.272.5245  
**Email:** ffoss@uta.edu (preferred)

**Required Materials:**

1. *Organic Chemistry, Second Edition* by David Klein (Wiley Publishers)
2. Sapling Learning Account (see *Homework*)

**Suggested Materials:**

1. *Organic Chemistry, Study Guide and Solutions Manual, Second Edition*, David Klein.
2. A Molecular Model set.

**Suggested Reading:**

1. “*How to Become a Straight-A Student*”, Cal Newport, 2007, Broadway Books, New York.
2. “*How to study: And Other Skills for Success in College*”, Alland Mundsack, James Deese, and Ellin K. Deese McGraw-Hill Education, 5<sup>th</sup> edition, 2003.

**Course Description:**

Organic Chemistry I explores the structure of organic materials, the physical properties defined by these structures, and our ability to manipulate materials by chemical synthesis. This course will focus specifically on the structure, properties, bonding, stereochemistry, reactions, and reaction mechanisms of carbon based molecules (see Course Sequence for more details).

**Student Learning Outcomes:**

*In the Curriculum:* CHEM-2321 is intended for students majoring in Chemistry, Biochemistry, Biological Chemistry, or Biology; or who plan to enter an Engineering (bioengineering, electrical, materials, or nano-science), Health (allied health, dentistry, epidemiology, medicine, pharmacy or veterinarian), Law (patent), or other Scientific (earth science, environmental, materials, physics, or psychology) professions. Earning a C or better in this course is a prerequisite for CHEM2322, Organic Chemistry II.

*In the Classroom:*

1. Communicate the structure of molecules to others via IUPAC and common nomenclature and depict the structure when given the name of a molecule.
2. Recognize, represent, and manipulate the 3-D structure of molecules.
3. Describe in Detail the physical and chemical properties (*stability and reactivity*) of organic compounds (*molecular structure*). [Structure  $\rightleftharpoons$  Function]
4. Predict the outcome of an organic reaction when given substrates and reagents, or provide adequate reagents to convert starting materials to desired products. [A + B  $\rightleftharpoons$  C]
5. Design logical synthetic pathways to create a desired compound from common starting materials.

*For Your Future:*

1. Develop your study skills: scheduling, organization, reading, note making, problem solving, etc. (See Suggested Reading)
2. Develop problem-solving skills.
3. Understand *Chemistry's* relationship with your area of study/work.
4. Gain an informed view of *Chemistry's* impact on our quality of life.

**Important Dates:**

June 5	First day of classes
June 22	Census Date
<b>See Below</b>	<b>Exams*</b>
July 20	Last day to drop (requests by 4 PM)
August 10	Last Day of Class
<b>August 14</b>	<b>CUMMULATIVE FINAL EXAM, Monday, 6:00-8:00 PM</b>

**Course Sequence (by Chapter):**

Chapter(s)	Description	Hours	Dates	Homework**
1-2	1. Review of General Chemistry & 2. Molecular Representation	~3	-	HW 1 – due HW 2 – due
3	Review of Acid/Base Chemistry	~2	-	HW 3 – due
4	Alkanes and Cycloalkanes	~3	-	HW 4 – due
5	Stereoisomerism	~4	-	HW 5 – due
<b>1-5*</b>	<b>Exam 1</b>	<b>1</b>	<b>6/26*</b>	
6	Chemical Reactivity and Mechs.	~3	-	HW 6 – due
7	Substitution Reactions	~4	-	HW 7 – due
8	Alkenes and Elimination Reactions	~4	-	HW 8 - due
9	Addition Reactions of Alkenes	~4	-	HW 9 - due
<b>6-9*</b>	<b>Exam 2</b>	<b>1</b>	<b>7/24*</b>	
10	Alkynes	~2	-	HW 10 - due
11	<i>Radical Reactions</i>	~3	-	HW 11 - due
12	Synthesis	0	-	HW 12 - due
13	Alcohols and Phenols	~2	-	HW 13 - due
<b>10-13*</b>	<b>Exam 3</b>	<b>1</b>	<b>8/7*</b>	
14	Ethers, Epoxides, Thiols, Sulfides	~3	-	HW 14 - due
<b>1-14</b>	<b>Final Examination</b>	<b>2</b>	<b>8/14***</b>	
		<b>42.0</b>		

\*mid-term content is approximate, dates will remain the same.

\*\* Homework assignments will be due before the following class.

\*\*\* All students must take the final at this time. If you know that you have a conflict, you must contact your professor before census date.

**Assessment:***Grading:*

One Hour Exams (Lowest Grade may be replaced by Final)  
Homework (Sapling Learning)  
In Class Quizzes  
Final Examination (Comprehensive Exam)

Percent of total grade

**60%**  
**10%**  
**10%**  
**20%**

A final letter grade will be awarded as follows:

<u>Letter Grade</u>	<u>Calculated Grade</u> <sup>1,2</sup>
A	≥ 90%
B	≥ 80%
C	≥ 70%
D	≥ 60%
F	< 60%

<sup>1</sup> Grade breaks may be adjusted to lower values.

<sup>2</sup> Extra Credit projects are not available.

*Self Assessment:*

You **MUST** work the problems at the end of each chapter. Use office hours, the chemistry clinic, and study groups to address problem areas and build problem-solving skills. *Attending office hours will never have a negative effect on your grade, please stop by with specific questions from the text, your notes, homework, or exams.*

**Attendance:** At The University of Texas at Arlington, taking attendance is not required. Rather, each faculty member is free to develop his or her own methods of evaluating students' academic performance, which includes establishing course-specific policies on attendance. As the instructor of this section, I do not take attendance. However, see *learning strategies* and *quizzes*.

**Learning Strategies:**

1. Read Ahead - You should dedicate three hours outside of class for every one hour inside our classroom for this course.
2. Take Notes by Hand - Before class, read your textbook and write notes on material. During class, take thorough notes by hand, or annotate your pre-class notes, or perhaps keep classroom notes on the opposing page in your notebook. (Note-making by computer? Taking notes by hand is recommended for organic chemistry; you will benefit from practicing the structural language of chemistry.) After class, condense and reword your notes for study purposes. Finding the best method for you will help you *study effectively*, and perhaps *efficiently*.

3. Work Problems - You must practice to pass this course. This will also point out areas that you need to review for better comprehension (See Self-Assessment). If you test yourself against problems in the book, you will know how to focus your test preparation time.
4. Attend Class - *Attendance is necessary for success in this course.* Over the past few years, students who attend class have exam averages ~10-15% higher than other students.
5. Observe Good Classroom Etiquette - Recording devices are *allowed* in our classroom. However, please silence cell phones and avoid activity that will distract your classmates. Students talking, surfing the web, or texting will be asked to stop or leave.

### **Additional Resources:**

*Chemistry Clinic:* The Chemistry Clinic is located in Science Hall room 318 (817.272.5431) and is an excellent resource. You may study there and ask questions from chemistry and biochemistry majors.

### **Graded Materials:**

*Homework Assignments:* Graded homework has been shown to enhance overall learning and performance of chemistry students in the classroom. The benefits extend to standardized exams by increasing retention rates among students. You will have a 20 question timed quiz for each chapter, so that you can evaluate how well you understand each topic. Be sure to review questions that give you trouble and to visit office hours. (A note about HW and exams: Homework problems provide feedback about your knowledge, but will not be representative of ALL exam questions. I will ask you to ‘extend’ your knowledge to answer or give insight to interesting questions that one might come across in a laboratory setting. Science is, by definition, an intellectual and practical activity that involves *observation* and *experiment*. “Science is a way of thinking much more than a body of knowledge” Carl Sagan. – or, if you like, “Nothing in education is so astonishing as the amount of ignorance it accumulates in the form of inert facts.” Henry Adams.)

You will have access to a large pool of practice questions, and then be required to complete a timed quiz by an assigned date. Start working practice homework problems early and leave yourself time to come to office hours for help before you have to complete the graded homework. Completing only the assigned homework questions will likely not prepare you sufficiently for the in class exams. You may miss one of the assigned homework sessions with no penalty. If you complete all assigned homework sets, I will drop your lowest HW score.

**Graded homework must be completed on your own. But you may use your textbook to help you solve the problems.**

### **Setting up a Sapling Learning Account**

Go to the Sapling Learning page at [macmillanlearning.com](http://macmillanlearning.com) and click **US Higher Ed** to log in or create an account. The following link includes detailed instructions on how to register for your

course: [http://cmg.screenstepslive.com/s/Student\\_Help/m/52447/l/553738-registering-for-courses](http://cmg.screenstepslive.com/s/Student_Help/m/52447/l/553738-registering-for-courses).

During sign up or throughout the term, if you have any technical problems or grading issues, please fill out the [support request form](#) for assistance from our dedicated student support team.

**Quizzes:** I will ask students (individually, or in groups) to participate in classroom questions. Usually, you will complete multiple-choice or short-answer quiz questions. Expect these as we introduce and wrap up different topics and subtopics. You must be in attendance to complete these quizzes. Your two lowest scores, or two missed classes, will be dropped from the calculation of this portion of your grade.

**Exams:** Please bring a **#2 pencil** and **ScanTron form 882-E** for completing multiple-choice questions. You may want a **pen** for answering write out questions. You may not use any electronic devices for any portion of the exam. Remember to clearly state your answers for written questions and indicate your final answer where required for multiple-choice questions. **Expect to see questions that require you to extend your knowledge.** I will grade each write out question and award partial credit where possible. Partial credit will not be awarded in situations where it is unclear what structure or statement represents your intended answer.

Your exams will be graded before the third following class. I will prepare an Exam Key for the mid-term exams and include the grading rubric for each write out questions when possible. My primary goals while grading are to provide thorough, accurate answers, and fairly grade all exams. To do this properly, I must remain faithful to my grading rubric. If you have questions regarding a graded problem, please see me outside of class. I can only consider answers written in pen, which is why I suggest you use a pen for the write-out portion of the exam.

**Make-up exams:** **There will be no make up examinations for this course.** You will be allowed to replace your lowest exam grade with your score from the final exam. Should you miss an exam, your zero will be replaced with your final exam score. If you miss multiple exams, please see me outside of class. For any exceptions to this rule, you **MUST** have documentation of a genuine excuse for having missed multiple exams. If extenuating circumstances exist, you will not take the same exam as your classmates. Travel is never an excuse to reschedule your exam. **DO NOT SCHEDULE TRAVEL THAT CONFLICTS WITH YOUR FINAL EXAMINATION – August 14<sup>th</sup> 6:00-8:00 PM.**

**Important UT Arlington Policies:**

**Academic Integrity:** This class will have a zero tolerance policy for cheating and academic dishonesty. Cheating, plagiarism, and collusion will be reported to the office for Student Conduct. 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.*

UT Arlington faculty members may employ the Honor Code as they see fit in their courses, including (but not limited to) having students acknowledge the honor code as part of an examination or requiring students to incorporate the honor code into any work submitted. 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. If you should have questions about the Honor code and your efforts in this class, please approach your instructor immediately to avoid any action that might involve the Office of Student Conduct or affect your grade. This policy should involve an open conversation about ethics and scholastic integrity.

**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/aao/fao/>).

**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](http://www.uta.edu/disability) or calling 817-272-3364. **Counseling and Psychological Services, (CAPS)** [www.uta.edu/caps/](http://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](http://www.uta.edu/disability) or by calling the Office for Students with Disabilities at (817) 272-3364.

**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](http://uta.edu/eos). For information regarding Title IX, visit [www.uta.edu/titleIX](http://www.uta.edu/titleIX).*

**Bomb Threat Policy:** In the event of a bomb threat to a specific facility, University Police will evaluate the threat. If required, exams may be moved to an alternate location, but they will not be postponed. UT-Arlington will prosecute those phoning in bomb threats to the fullest extent of the law.

**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 Feedback Survey:** At the end of each term, students enrolled in classes categorized as “lecture,” “seminar,” or “laboratory” shall be directed to complete an online 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>.

**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, which is located on your left as you leave through either of the two doors in SH 103. 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.

**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](mailto:resources@uta.edu), or view the information at <http://www.uta.edu/universitycollege/resources/index.php>