



Syllabus: **Organic Chemistry 2**

Course Number: **CHEM 2425**

Semester & Year: **Spring 2014**

Instructor Information

Name: **M. Sheets**

Office: **Chemistry 201**

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Office Hours: **see posted hours**

### **Textbook/Materials Information**

*Organic Chemistry*, ISBN # 978-0-321-76841-8, Wade, 8<sup>th</sup> Edition

(Any edition of this text from 5<sup>th</sup> – 8<sup>th</sup> is acceptable)

*Experiments in Organic Chemistry*, ISBN # 0-89892-311-5, Hill & Barbaro, 3<sup>rd</sup> Ed

**Approved** Lab Apron

**Approved** Chemical Splash Goggles

### **Student Learning Outcomes for the Course**

1. Correlate molecular structure with physical and chemical properties of aliphatic and aromatic organic molecules.
2. Predict the mechanism and outcome of aliphatic and aromatic substitution and elimination reactions, given the conditions and starting materials
3. Predict the chirality of reaction products based on enantiomeric and diastereomeric relationships.
4. Describe reaction mechanisms in terms of energetics, reaction kinetics, and thermodynamics.
5. Use spectroscopic techniques to characterize organic molecules and subgroups.  
Upon successful completion of this course, students will:
6. Perform chemical experiments, analysis procedures, and waste disposal in a safe and responsible manner.
7. Utilize scientific tools such as glassware and analytical instruments to collect and analyze data.
8. Identify and utilize appropriate separation techniques such as distillation, extraction, and chromatography to purify organic compounds.
9. Record experimental work completely and accurately in laboratory notebooks, and communicate experimental results clearly in written reports.
10. Correlate molecular structure with physical and chemical properties of aliphatic and aromatic organic molecules.
11. Predict the mechanism and outcome of aliphatic and aromatic substitution and elimination reactions, given the conditions and starting materials.
12. Predict the chirality of reaction products based on enantiomeric and diastereomeric relationships.
13. Describe reaction mechanisms in terms of energetics, reaction kinetics, and thermodynamics.
14. Use spectroscopic techniques to characterize organic molecules and subgroups.

## Student Requirements for Completion of the Course

You will be given five major tests, plus a **comprehensive final** at the end of the semester. Each of the tests will be worth 100 points, with the final worth 100 points. You will also be given a daily quizzes worth 5 points each. The total quiz points will be averaged as one major test grade. Labs will be averaged as one major test grade. At the end of the semester, grades will be assigned according to the number of points you have gained in relation to the number of points possible. Tests will cover the following: Test 1 - chapters 9 & 14; Test 2 - chapters 12 and 13; Test 3 - chapters 15, 16 & 17; Test 4 - chapters 18 & 19; Test 5 - chapters 20 & 21. **THIS PLAN MAY BE MODIFIED; IF SO SUFFICIENT NOTICE WILL BE GIVEN TO YOU.**

## Student Assessment

You have the following possibilities for earning points:

(1) 1 averaged quiz grade	100 points
(2) 5 major tests @ 100 points	500 points
(3) laboratory grade	100 points
(4) final exam @ 100 points	<u>100 points</u>
	<b>800 points possible</b>

Computer lessons are available for your use. Besides assisting you in learning concepts and providing practice, these lessons (**70**) are worth **0.5 bonus points each**, for a total of **35 bonus points**. These are based in the computer lab in room 218 located in the southeast corner of the chemistry building (computers in the biology computer lab can also access these tutorials). Please do not wait until the end of the semester to work on all of the tutorials. The computer room gets crowded at that time. Part of the benefit is in doing the lessons in the computer lab at the same time as we are learning the concepts in class. **There are 7 pages of 10 lessons per page (see last page for instructions on changing pages of lessons)**. Some of these tutorials take quite a bit of time to complete, so start on them early and work steadily throughout the semester.

## Grading Scale

Grade	%
A	90-100
B	80-89
C	70-79
D	60-69
F	59-below

## Class Schedule

Class will meet M & W, 9:30-10:50 AM for lecture, 1 hour at designated times for the extended session, and M, 12:30-4:20 PM for lab. Bonus lessons will be on your time.

## Absentee Policy

Texarkana College's absentee policy allows instructors to withdraw a student from a course due to excessive absences. If a student leaves and returns during class or leaves the class before the class is over, he/she **may** be considered absent. Three tardies constitute one absence. It is the student's responsibility to check the syllabus for each instructor's tardy policy.

In some workforce/vocational areas, such as nursing and cosmetology, certification requirements necessitate an absentee policy that is more stringent than the institutional policy. In these instances, the matter of certification takes precedence over local policies, since certification policies are established by the State of Texas.

Faculty members **are not** obligated to provide opportunities for students to make-up missed assignments and tests as a result of a student's absence from class. The institution is not required to take attendance with the exception of workforce/vocational areas, where certification requirements require taking attendance. However, experience demonstrates that regular attendance enhances academic success. As such, students are expected to attend each meeting of their registered courses.

A student should not stop attending a class without formally withdrawing from the course by the institutions published Last Day for Students to Drop. If a student stops attending class after the published Last Day for Students to Drop, the student **may** receive a grade of "F" in the class. The instructor will submit the last date of attendance for students receiving a grade of "F" or "W".

Withdrawal from a course(s) **may** affect a student's current or future financial aid eligibility. Students should consult the Financial Aid Office to learn both short and long term consequences of a withdrawal.

## Excused Absences

A student's absence due to school trips and/or school business will not be counted against a student's allowable number of absences. Military duty and absences for Holy Days (FBD LEGAL) are covered in a separate section of the catalog and the student handbook. These are the only excused absences that are considered by Texarkana College. Responsibility for work missed for any absence is placed on the student. Instructors are required to allow students to make up work missed if the absence is due to military duty\* or religious holy days when students follow the correct notification procedures. Instructors are not required to allow students to make up work for absences due to other reasons. Make-up policies are listed in each individual instructor's syllabus.

## Maximum Allowable Absences

After official registration, the following number of unexcused absences will be the maximum allowable before a student **may** be dropped from the class. Mandated program certification requirements detailed for certain programs regarding the maximum allowable unexcused absences takes precedence over the following information.

A COURSE THAT MEETS FOR THE FULL 16 WEEK SEMESTER	
Class or Lab Meets:	An instructor may withdraw a student from a course if absences exceed:
Once a week (Night / Friday classes)	2
Twice a week (MW or TTh classes)	4
Three times a week (MWF or TThF classes)	6
Four times a week (MTWR classes)	8
	Three tardies count as one absence

### CHEM 2425 Attendance Policy

Students are expected to attend and participate in class. While it is recognized that there are many valid reasons for missing class, it must be remembered that if you miss class, you will miss discussion or lab work important to you. Excessive absences may lead to your being dropped from class. **You are allowed four (4) absences from lecture, two (2) from recitation/extended lecture and two (2) from lab.**

### Make-up Policy

If you miss a major exam, you will be allowed one (1) make up test. You will need to make up that exam ASAP. Any other missed exams will be treated as a "0" grade. Daily quizzes will not be made up. Any quiz missed will be counted as a "0" grade.

### Academic Integrity Statement

Scholastic dishonesty, involving but not limited to cheating on a test, plagiarism, collusion, or falsification of records will make the student liable for disciplinary action after being investigated by the Dean of Students. Proven violations of this nature will result in the student being dropped from the class with an "F". Information on this policy can be found in the Student Handbook at

<https://texarkanacollege.edu/PDFFiles/CurrentStudents/studenthandbook.pdf>.

### Disability Act Statement

Texarkana College complies with all provisions of the Americans with Disabilities Act and makes reasonable accommodations upon request. Please contact Larry Andrews at 903.823.3283, or go by the Recruitment, Advisement, and Retention Department located in the Administration building for personal assistance.

If you have an accommodation letter from their office indicating that you have a disability which requires academic accommodations, please present it to me so we can discuss the accommodations that you might need for this class. *It is best to request these changes at*

*the beginning, if not before the start of class*, so there is ample time to make the accommodations.

## Financial Aid

**Attention!** Dropping this class may affect your funding in a negative way! You could owe money to the college and/or federal government. Please check with the Financial Aid office before making a decision.

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Organic Chemistry 2 is the second half of a two semester course. We will cover chapters 9 and 12-21 in the textbook. Topics in laboratory have been chosen to amplify concepts presented in lecture.

There is a great deal of material to be learned and not much time in which to learn it. To be successful, you must devote sufficient time to the class. This may mean several hours per day outside of class. Exactly how much time will depend on the individual and his/her circumstances.

Please observe the college rules concerning food, drinks, and smoking. ***NO food or drinks will be allowed in the laboratory. Cellular phones are not to be seen or heard before, during, or after class.*** If your phone (or pager) rings, you **may** be asked to leave class.

Please be aware of the guidelines for conduct as stated in the college catalog and student handbook. Students must conduct themselves so other students are not distracted from the pursuit of learning. Discourteous or unseemly behavior will not be tolerated. Faculty members, staff and other students are to be treated with courtesy and respect. If unacceptable behavior occurs, the student may be asked to leave the classroom and may be subject to disciplinary action up to and including being dropped from the class with a grade of "F".

**If you email me, please put CHEM 2425 in the subject line.**

### ***Dates to remember:***

Spring Break	-	March 10-14	Final Exams	-	May 12,13,14,15
Last Day to Drop with a <u>W</u>	-	April 18	Commencement	-	May 20

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To be successful in this class you must take responsibility for your own learning. Some fortunate few may be able to absorb and process all needed information and skills on first hearing or reading. The rest of us usually have to devote varying amounts of time to studying. "Studying" does not mean just "read the material." It also includes:

- correlating your notes (which you *surely* have taken) with the text material
- working problems with a view of not simply getting the "right answer," but of understanding the process of problem solving

- developing and understanding the material to the point where you are able apply concepts in unfamiliar situations

Please note that the study of organic reactions depends on learning *reaction mechanisms*. You may wish to create a set “mechanism cards” or pages that you can review before tests and as a step-by-step guide to how particular reactions occur.

There are several ways in which you can help yourself in this class. First of all, **preview the material** before class - read ahead. If you have an idea of what we are going to discuss in class, it will make more sense than to have it dumped on you cold.

Second, **if you need help, get it as soon as possible**. Do not wait until you are hopelessly behind. Of course you can come by and see me for help, but you also have other options. One of these is a **study group**. Find three or four people to study with (not eat pizza, talk about sports or soap operas, or even gripe about classes - study). This has several benefits. If you missed a concept or step in class, it is likely that one of your group “got it” and can pass it onto you. Also, one of the best ways to ensure that you really understand an idea is to try to explain it to another student. The old excuse, “I know, but I just can't tell you,” usually translates into “I don't know it that well.” Another help you have available is the **tutoring program** that Texarkana College provides. The tutors work out of Student Support Services located in the library. Sometimes tutors are stationed in this building. Do not wait until you are in deep trouble before you see the tutors. These students are paid by the college and their services cost you nothing.

The third way to help yourself is with the **computer tutorials** which are available to you. As explained earlier, these lessons can help you in learning concepts we are covering in class and can provide a boost to your grade, should you need it

### To Sign-On to the Tutorials

You must sign on to the TC system using your student name and password. You will then see the computer home page. Using the mouse, click on the **Chemistry Lessons** icon. You should see a screen labeled at the top: “Comprehensive Chemistry CD-ROM.” Follow directions from here on. The course name is **CHEM 2425**. When you are asked for your name, use your **last name only**. You will be asked for a **password**. Type in whatever you wish to use. The first time you sign on, you will be asked to repeat the password for verification. That will be the password you must use from then on. **Please do not forget your password**. If you do, I can go in and change it, but it would be nice if you wouldn't forget it in the first place. The computer keeps track of the tutorials you have completed and I will record those totals at the end of the semester.

Once again, there are **70** bonus lessons – **7 pages of 10 lessons each**. The **cursor keys** (or the mouse) let you move **up and down among the lessons on a page**. The **Page Up** and **Page Down keys** let you **change pages of lessons**.

You might also want to inquire at **Student Support Services** about workshops or seminars dealing with study skills, test anxiety, etc. They can be a help and will not cost you anything.