

Texas A&M University-Texarkana  
CHEM 2423: Organic Chemistry I  
2011 Fall Semester  
T, R 1:00 p.m. – 3:15 p.m., SCIT 201



**Course Syllabus**

**Faculty Office Location and Contact Policy**

**Instructor Contact Information**

Dr. Artem Kireev

Office: Room SCIT 219 (2<sup>nd</sup> floor), Science and Technology Building

Phone: 903-334-6670

Email: [akireev@tamut.edu](mailto:akireev@tamut.edu)

*Best method of contact is email*

**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

T: 9:00 a.m.–12:00 p.m.; W: 5:00 p.m.–7:00 p.m.; R: 8:20 a.m.–11:00 a.m.; and F: 9:00 a.m.–1:00 p.m.

**Course Website**

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

<http://webcta.tamut.edu/webct/logonDisplay.dowebct>  
or at [www.tamut.edu](http://www.tamut.edu) Go to Web Courses (Blackboard).

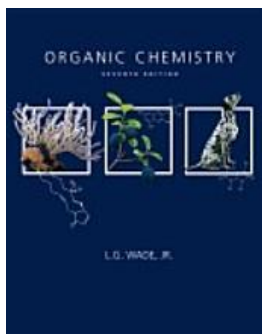
**Course Description**

This course is the first semester of a comprehensive and somewhat rigorous survey of organic chemistry emphasizing nomenclature, structure, properties, synthesis, reactions and reaction mechanisms of carbon compounds. **Prerequisites:** *CHEM 1312 passed with grade C or better or eight semester hours of general chemistry.* Course fee required

### Regarding Prerequisites

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 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.

### Required Textbooks/Resources



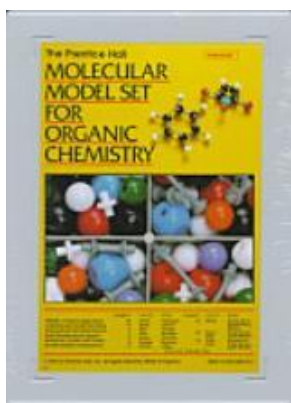
ORGANIC CHEMISTRY by L. G. Wade, (7<sup>th</sup> Edition), Prentice Hall Inc., 2010. **ISBN-13: 9780321592316.**

STUDENT SOLUTIONS MANUAL FOR ORGANIC CHEMISTRY by L. G. Wade and J. Simek, (7<sup>th</sup> Edition), Prentice Hall Inc., 2010. **ISBN-13: 9780321598714.**

ORGANIC NOMENCLATURE: A PROGRAMMED INTRODUCTION by J. Traynham, (6<sup>th</sup> Edition), Prentice Hall Inc., 2009. **ISBN-13: 9780130178688.**

These can be obtained from the University Bookstore as a bundle of three. You can also purchase this bundle from Prentice Hall Inc. using the following ISBNs. **ISBN-10: 0321673808** or **ISBN-13: 9780321673800.**

### Highly Recommended



*Prentice Hall Molecular Model Set*, Prentice Hall Inc., 1998. **ISBN-10: 0205081363**

A set of molecular models will be very useful in helping you to visualize 3-dimensional structures, but are not required. It can also 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. Any Organic Molecular Model Set will do.

### Student Learning Outcomes

The general outcome goal of this course is to familiarize students with the classification, structure, nomenclature, reactions, reaction mechanisms, and synthesis of carbon compounds including halocarbons, alkanes, alkenes, alkynes, and alcohols. After completion of this course students will be able to:

1. Predict the shape of a given molecule using existing models including the Valence Shell Electron Pair Repulsion Theory;
2. Describe the functional groups and polarity of the molecule of a given organic compound using words, structural and chemical formulas, and physical and computer models;
3. Describe a given hydrocarbon compound as aromatic or aliphatic, saturated or unsaturated, alkane, alkene or alkyne, and branched or straight chains;
4. Explain and predict the outcomes of reactions of a given aromatic, allylic and conjugated alkenes and other delocalized electron systems using a molecular orbital model of the pi-bond;
5. Explain and predict the reactivity, solubility, melting point and boiling point of an organic compound using functional groups, structure and polarity;
6. Predict the structure of an organic molecule using infrared, nuclear magnetic resonance and mass spectra;
7. Describe the origin of optical activity of a given chiral organic compound using words, diagrams, structural and chemical formulas and physical and computer models.

### Course Outline

Organic Chemistry I is the first semester of a one-year course. The first semester covers the classification, structure, nomenclature, reactions, reaction mechanisms, and synthesis of alkanes, alkenes, alkynes, and alcohols as well as spectroscopic methods of analysis. These topics will be delivered via lectures, in class problem solving, and laboratory activities.

***This course is organized to discourage the student from relying only on memorization.***

### Course Requirements

Regular and punctual attendance is of paramount importance.

Students are expected to attend all meetings of the class, to arrive at the designated beginning time for the class, and to remain until the designated dismissal time for the class. Authorized absences are granted for students who are approved by the appropriate administrator of the University. Examples of authorized absences include class field trips, University-sponsored workshops, musical performances, and intercollegiate sports participation. Book problems will be posted on Blackboard. All assigned book problems represent reasonable test-level problems. All have worked-out answers in the Solution Manual. Since solutions are available, the book homework will not be collected. Students are required to work all of the assigned book problems at the back of the sections covered so that they can not only understand what they are doing at the time, but will remember how to do it weeks later. After each chapter is completed, in class, students are required to do all of the assigned end-of-chapter practice problems in the book. Each student is required to take all examinations.

**Methods of Evaluation**

Each student's final grade will be based on the following:

<b>Graded Components</b>	<b>Points</b>
Quizzes (12 @ 20 points each)	240
Major Exams (3 @ 100 points each)	300
Comprehensive Exam	200
Laboratories (6 @ 50 points each: activities, notebook and lab reports)	300
<b>Total Possible Points</b>	<b>1040</b>

Quizzes, structured in a variety of ways, will be given at the end of each class meeting and are a great way to assess student's progress.

***It is important to work hard from the very beginning of this course. Putting off the extensive information in organic chemistry till the week of a test will only make it harder.***

Quizzes will be based on previously assigned book problems. Exams will be multiple choice and problem-solving format incorporating concepts and activities introduced in class and in laboratories. Comprehensive exam will be covering all of the same material tested previously. Laboratory activities are designed to help students develop techniques necessary for them to carry own synthesis and purification, and elucidation of carbon compounds structure.

**Grading Scale**

90-100%	A
80-89%	B
70-79%	C
60-69%	D
0-59%	F

**Make-up Exams**

Each student is required to take all examinations. Make-up examinations will be given only if the student has an excused or authorized absence, but students must contact the instructor no later than one week after the missed exam, or after return to campus, to indicate why they were absent and to request to take a make-up. It is the responsibility of the student to inquire as to the procedure for making up an exam. A grade of zero (0) will be recorded if the make-up is not taken in a timely manner. There are no make-ups on quizzes, comprehensive final exam, and other class assignments.

**Assistance**

Each student is encouraged to contact the professor for assistance with any class related problem. To discuss grades or concerns, email or call to make an appointment.

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

**Academic Integrity**

Academic honesty is expected of students enrolled in this course. Cheating on examinations, unauthorized collaboration, falsification of research data, plagiarism, and undocumented use of materials from any source constitute academic dishonesty and may be grounds for a grade of 'F' in the course and/or disciplinary actions. For additional information, see the university policy manual.

**Lecture and Laboratory Rules**

Attendance will be taken daily, either by students signing an attendance sheet or by the roll being called verbally. Each lecture will begin with announcements (if needed) followed by a brief review of information from, and/or questions about, the previous lecture. The roll will be taken immediately after the review, usually no more than 5 minutes into the class period. A student is responsible for the content of any missed laboratory period. Laboratory material will be tested on both lecture and laboratory exams. There will be no make-up laboratories. Anyone not present or not answering the roll call will be considered absent except as follows. Students arriving after the roll is called will be allowed to enter and participate. However, it is their responsibility to sign the tardy sheet that will be available.

***Important!***

- ***Once you have entered the lecture classroom, do not leave or you will be considered absent. Use the facilities before coming to class.***
- ***Cell Phones: Cell phones are to 'turned off' or 'turned to vibrate' during both lecture and laboratory and during all tests and exams. No exceptions!***

**Methods of Instruction**

- Lecture
- Demonstration and simulation
- Outside assignments
- Class discussion
- A-V Media/Internet
- Laboratory work

**Lecture and Lab Schedule**

*Note: The classroom lecture-discussion-lab topics will follow the order in which they appear in textbook. The following schedule is subject to modifications at any time during the semester. The lecture sequence may change and topics may end sooner or later than noted. There will be approximately 6-planned laboratory sessions. Lab handouts will be provided before each lab session. No textbook is required.*

<b>08/25</b>	Chapters 1 & 2.1-2.6	Review of basic concepts and chemical calculations
<b>8/30 09/01</b>	Chapter 2.7- 2.14	Structure and Properties of Organic Molecules
<b>09/06 09/08</b>	Chapter 3	Structure and Stereochemistry of Alkanes
<b>09/13 09/15</b>	Chapter 4	The Study of Chemical Reactions
<b>09/20</b>	<b>EXAMINATION ONE</b> Chapters 1-4	
<b>09/20 09/22</b>	Chapter 5	Stereochemistry
<b>09/27 09/29</b>	Chapter 6	Alkyl Halides: Nucleophilic Substitution and Elimination
<b>10/04 10/06</b>	Chapter 7	Structure and Synthesis of Alkenes
<b>10/11</b>	<b>EXAMINATION TWO</b> Chapters 5-7	
<b>10/11 10/13 10/18</b>	Chapter 8	Reactions of Alkenes
<b>10/20 10/25</b>	Chapter 9	Alkynes
<b>10/27</b>	Chapter 10	Structure, Synthesis and Reactions of Alcohols
<b>11/01</b>	<b>EXAMINATION THREE</b> Chapters 8 & 9	
<b>11/01 11/03</b>	Chapters 10 & 11	Structure, Synthesis and Reactions of Alcohols
<b>11/08 11/10</b>	Chapter 12 Lab 1	Infrared Spectroscopy and Mass Spectrometry
<b>11/15</b>	Chapter 13	Nuclear Magnetic Resonance Spectroscopy

	Lab 2	
11/17	Lab 3	TLC
11/22	Lab 4	Melting Point Determination
11/29	Lab 5	Simple Distillation
12/01 12/06	Lab 6	Aspirin Synthesis and Recrystallization
12/08	Lab 6	Product Analysis and Review of the Material
12/13	<b>COMPREHENSIVE FINAL EXAM</b>	

### Student Participation

- Participation Policy:** Participation in the course will include attendance at all scheduled meetings, in class problem solving and collaboration with other students in a group at assigned stations. The collaboration involves implementation of theoretical knowledge into laboratory practice including design of an experiment, conduction of the experiment and discussion of results.
- Course Etiquette:** Informal class participation is welcome. Please do not make comments that are off the subject or that impede the progress of the class. Cell phones are to be turned off. Use the facilities before coming to class. Observing safety rules and timely completion of each laboratory session are expected from students.
- Discussion Board Standards:** Students are expected to visit Blackboard and complete at least one assignment per day. Putting off the extensive information in organic chemistry till the week of a test will only make it harder.

### Disability Accommodations

Students with disabilities may request reasonable accommodations through the A&M-Texarkana Disability Services Office by calling 903-223-3062.

### A&M-Texarkana Email Address

Upon application to Texas A&M University-Texarkana an individual will be assigned an A&M-Texarkana email account. This email account will be used to deliver official university correspondence. Each individual is responsible for information sent and received via the university email account and is expected to check the official A&M-Texarkana email account on a frequent and consistent basis. Faculty and students are required to utilize the university email account when communicating about coursework.

### Attendance Policy and Course Withdrawal

Regular and punctual attendance is of paramount importance. You are expected to attend all meetings of the class, to arrive at the designated beginning time for the class, and to remain until the designated dismissal time for the class. Authorized absences are granted for students who are approved by the appropriate administrator of the University. Examples of authorized absences include class field trips, University-sponsored workshops, musical performances, and intercollegiate sports participation. The final drop/withdrawal date for the fall semester is published in the [University Calendar](#).

### University Drop Policy

To drop this course after the 12th class day, a student must complete the Drop/Withdrawal Request Form, located on the University website (<http://tamut.edu/Registrar/droppingwithdrawing-from-classes.html>) or obtained in the Registrar's Office. The student must submit the signed and completed form to the instructor of each course indicated on the form to be dropped for his/her signature. The signature is not an "approval" to drop, but rather confirmation that the student has discussed the drop/withdrawal with the faculty member. The form must be submitted to the Registrar's office for processing in person, email [Registrar@tamut.edu](mailto:Registrar@tamut.edu), mail (P. O. Box 5518, Texarkana, TX 75505) or fax (903-223-3140). Drop/withdraw forms missing any of the required information will not be accepted by the Registrar's Office for processing. It is the student's responsibility to ensure that the form is completed properly before submission. If a student stops participating in class (attending and submitting assignments) but does not complete and submit the drop/withdrawal form, a final grade based on work completed as outlined in the syllabus will be assigned.

### Student Technical Assistance

- Solutions to common problems and FAQ's for your web-enhanced and online courses are found at this link: <http://www.tamut.edu/webcourses/index.php?pageid=37>
- If you cannot find your resolution there, you can send in a support request detailing your specific problem here: <http://www.tamut.edu/webcourses/gethelp2.php>
- Blackboard Helpdesk contacts:

Office hours are: Monday - Friday, 8:00 a.m. to 5:00 p.m.

Kevin Williams (main contact) 903-223-1356

[kevin.williams@tamut.edu](mailto:kevin.williams@tamut.edu)

Frank Miller (alternate) 903-223-3156 [frank.miller@tamut.edu](mailto:frank.miller@tamut.edu)

Nikki Thomson (alternate) 903-223-3083 [nikki.thomson@tamut.edu](mailto:nikki.thomson@tamut.edu)

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