

COURSE SYLLABUS

(Tentative**)

CHM 2323

Sec 2 and 3

Organic Chemistry I

3 semester credit-hours Classroom:

CFS 123

Sect 02 MWF 10:00-10:50

Sect 03 MWF 2:00-2:50

Instructor:	Dr. Rick C. White	Spring 2018
Office Phone:	294-1060 off-campus ext. 41060 on-campus	Email: chm_rcw@shsu.edu
Office:	CFS 317D	Office Hours: MWF 3-5

Textbook (required): Joel Karty, "Organic Chemistry" Norton & Company, London, Ed. 1

Must bring book to every class.

Description:

This is the first half of a two-semester course in organic chemistry. Topics include molecular bonding and structure, properties and reactions of alkanes, alkenes, alkyl halides, and alcohols, and the nomenclature of alkanes, alkenes, alkynes, alkyl halides, and alcohols. Other topics will be interspersed throughout the lecture. This is the foundation material for all further work in Organic Chemistry and it is absolutely critical to your success both in this course and in subsequent organic related course-work that the concepts and tools in this first semester be mastered as fully as possible. If you do not learn the first half you can not pass the second half.

Prerequisite:

Students in this course must have successfully completed CHM 1412 with a grade of C or higher. The students are expected to be proficient in the nomenclature and principles from General Chemistry.

Required Materials:

You are required to bring your book to class. Also, you are expected to keep a notebook of all the homework problems you have worked.

Critical Learning Techniques:

Before each class meeting, it will be essential for you to complete the assigned reading and homework so that lectures might be supplemented with appropriate questions and valuable discussion. **If you are having difficulty with any of the assignments, it is your responsibility to make regular visits to my office and/or the chemistry tutors.**

Attendance Policy:

It is expected that students will attend class to learn this material. Students who attend class regularly tend to do well in this course. Students who habitually miss class habitually make poor grades.

Objectives: Skills to be Acquired This Course:

It is an overall goal of this course to improve the problem solving and mathematical skills of all students enrolled. In addition, students successfully completing this course should be able to:

1. To build on the foundations of General Chemistry.
2. Grasp and explain the concept of atomic geometry as a result of electronic orbitals.
3. Understanding of molecular structure and geometry as the result of atomic electronic geometry (hybridization).
4. Ability to distinguish the hydrocarbons into alkanes, alkenes, alkynes, aromatics, or composites based on structure.
5. Ability to distinguish the major functional groups; alcohols, ethers, amines, amides, nitriles, ketones, aldehydes, esters, carboxylic acids, acid halides, and acid anhydrides based on structure.
6. Ability to name, using IUPAC rules, alkanes, alkenes, alkynes, and alkyl halides.
7. Know the reactions and preparation of alkanes.
8. Know the reactions and preparation of alkyl halides.
9. Know the reactions and preparation of alkenes.
10. Understand and utilize the relative acid-base properties of atoms in various functional groups.
11. Understand and discuss structure-stability trends for reactive intermediates and stable molecules.
12. Predict the behavior of molecules under reaction conditions.

13. Predict relative physical and chemical properties of similar molecules based on comparative structure.
14. Predict possible products of reactions as well as the major product.
15. Ability to derive an acceptable mechanism for a reaction based on an understanding of the structure and properties of the starting materials, the reagents, and the products.
16. Ability to compose a reasonable synthesis of relatively simple organic compounds based on structure and a knowledge of basic reactions.
17. Ability to apply structural features of a compound to explain the chemical properties and stabilities observed.
18. Fluency in the terms and vocabulary of fundamental Organic and Freshman Chemistry.

Examinations:

There will be quizzes every Friday (20 pts) covering new and older material. It is important to be prepared to take quizzes with adequate preparation. There will be 11 quizzes and the best 8 will be counted.

A final, **comprehensive** examination is given at the University scheduled time. This exam will also be worth 200 points and a grade of 40% (80 points) on the final examination is required to be eligible to pass the course. All students must take this exam (the score obtained will not be dropped). A missed final will generate a grade of F for the course. Therefore, the total number of exam points possible is 500.

DO not schedule a trip during the Final Exam week. They are not excused.

Grading:

If the student has achieved the cut off of 50% on the final examination, a letter grade will be assigned based on their total accumulated points:

4 (A)	425 - above
3 (B)	375 – 424
2 (C)	325— 374
1 (D)	250 – 324
0 (F)	249 or below

Writing Standards:

Students enrolled in this course are expected to use literate and effective English in their speech and in their writing. All papers submitted must be well-written; grades on written work (including examinations) will be based on expression as well as on content.

Academic Dishonesty (Cheating) Policy:

“All students are expected to engage in all academic pursuits in a manner that is above reproach. Students are expected to maintain complete honesty and integrity in academic experiences both in and out of the classroom. Any student found guilty of dishonesty in any phase of academic work will be subject to disciplinary action. The University and its official representatives may initiate disciplinary proceedings against a student accused of any form of academic dishonesty including, but not limited to, cheating on an examination or other academic work which is to be submitted, plagiarism, collusion and the abuse of resource materials.”

Inappropriate Classroom Conduct Policy:

Students may not use cell phones in class. Or just sit and chat during class. You may be asked to leave class and class will be halted until you do.

“Students will refrain from behavior in the classroom that intentionally or unintentionally disrupts the learning process and, thus, impedes the mission of the university. Cellular telephones and pagers must be turned off before class begins. Students are prohibited from eating in class, using tobacco products, making offensive remarks, reading newspapers, sleeping, talking at inappropriate times, wearing inappropriate clothing, or engaging in any form of distraction. Inappropriate behavior in the classroom shall result in a directive to leave class. Students who are especially disruptive also may be reported to the Dean of Students for disciplinary action in accordance with university policy.”

Visitors to the Classroom:

“Unannounced visitors to the class must present a current, official SHSU identification card to be admitted in the classroom. They must not present a disruption to the class by their attendance. If the visitor is not a registered student, it is at the instructor’s discretion whether or not the visitor will be allowed to remain in the room.”

Schedule for Lectures: CHM2323

Schedule of Lectures

Jan 17	Intro to Organic Chemistry	Introduction
Jan 19	Aufbau Principle	Chap. 1
Jan 22	Resonance	Chap. 1
Jan 24	Formal Charges	Chap. 1
Jan 26	Drawing structures ,Quiz 1	Chapter 1
Jan 29	Naming Alkanes	Chapter 1
Jan 31	Naming Alkanes	Nomenclature 1
Feb 2	Naming Alkanes, Quiz 2	Nomenclature 1
Feb 5	Naming Alkanes	Nomenclature 1
Feb 7	3D Geometry	Chapter 2
Feb 9	3D Geometry , Quiz 3	Chapter 2
Feb 12	Study Abroad Day TAMU	Chapter 3
Feb 14	More Orbital; Interactions	Chapter 3
Feb 16	Polarities, Quiz 4	Chapter 3
Feb 19	Naming Alkenes, Alkynes	Nomenclature 2
Feb 21	NO Class DAAD function at TAMU	
Feb 23	More on Nomenclature. Quiz 5	Nomenclature 2
Feb 26	Wrapping up Nomenclature	Nomenclature 2
Feb 28	Isomerism	Chapter 4
Mar 2	Isomerism, Quiz 6	Chapter 4
Mar 5	Isomerism	Chapter 5
Mar 7	Considerations of Stereochemistry	Chapter 5
Mar 9	Midterm Exam	
Mar 12	Spring Break	Chapter 16
Mar 14	Spring Break	Chapter 16
Mar 16	Spring Break	Chapter 16
Mar 19	NMR spectra	Chapter 16
Mar 21	Intro to Organic Reactions	Chapter
Mar 23	Intro, Quiz 7	Chapter 10
Mar 26	Intro to Organic Reactions	Chapter 6
Mar 28	Intro to Organic Reactions	Chapter 6
Mar 30	Intro to Organic Reactions, Quiz 8	No Class
Apr 2	Organic Reactions	Chapter 6
Apr 4	Adding a Proton to a double bond	Chapter 7
Apr 6	Quiz 9	Chapter 7
Apr 9	Addition to Alkenes	Chapter 8
Apr 11	Addition to Alkenes	Chapter 8
Apr 13	Addition to a double bond, Quiz 10	Chapter 9
Apr 16	Addition to Alkenes	Chapter 9
Apr 18	Addition to Alkenes	Chapter 11
Apr 20	Addition to Alkenes, Quiz 11	Chapter 11
Apr 23	Addition to Alkenes	Chapter 11
Apr 25	Addition to Alkenes	Chapter 11
Apr 27	Rxs of double bonds, Quiz 12	Chapter 24
Apr 30	Addition to Alkenes	
\May 2	Addition to Alkenes	Chapter 24
May 4	Last class Day	Chapter 24
May 7 Final Exam		

Do you want to do well in this course?

If your answer to this question is yes, you should frequently ask yourself the following questions:

1. Have I prepared for class by completing the assigned reading before coming to lecture?
2. Have I made notes during my reading of the points which are confusing or difficult so that I may ask questions about them during lecture?
3. Have I kept a neat and complete notebook of homework problems and sought help from a tutor or faculty member for those problems I did not fully understand?

Course Homework**Homework**

Homework is the method by which you learn organic chemistry. It is not by copying homework from somebody else and it is not by scanning the notes a few minutes before

the exam. It is the Professor's role to guide you in your studies, to answer questions and explain concepts. It is not the Professor's role to "teach you" organic chemistry. It is the student's job to take advantage of the opportunity to learn. The MINIMAL homework is given below. You should work as many problems as possible to understand both the concepts and the principles of organic chemistry. The homework problems can also be thought of as "practice exams".

Ch. 1: 1.45, 1.47, 1.49, 1.58, 1.68, 1.69, 1.70, 1.75, 1.78

Nom 1: N1.3.3, N1.3.4

Ch. 2: 2.31, 2.33, 2.34, 2.41, 2.43, 2.46, 2.51, 2.61, 2.66,

Nom 2: N2.2.7, N2.2.8

Ch. 3: 3.30, 3.32, 3.33, 3.37, 3.44, 3.52, 3.55

Nom 2: N2.2.7, N2.2.8

Ch. 4: 4.26, 4.29, 4.31, 4.43, 4.46, 4.56, 4.62, 4.68

Ch. 5: 5.39, 5.40, 5.42, 5.44, 5.50, 5.52, 5.57, 5.56, 5.57

Nom 3: N3.2.3, 3.2.5,

Ch. 6: 6.4, 6.44, 6.46, 6.53, 6.54, 6.70,

Ch. 8: 8.39, 8.40, 8.45, 8.48, 8.52, 8.55, 8.64

Ch. 9: 9.39, 9.42, 9.46, 9.47, 9.50, 9.52, 9.56, 9.59, 9.63, 9.66, 9.67

Ch. 16: 16.43, 16.46, 16.47, 16.52, 16.54, 16.58, 16.70, 16.74

** This document is tentative in that changes may be made as deemed necessary by the Professor in order to achieve the objectives of the course.