COURSE SYLLABUS
CHM 2325 sect. 01
Organic Chemistry II, Lecture
3 CRED HRS.

Spring 2017

(The Student Acknowledgement Form at the end of the syllabus must be completed, signed, and turned in to the Instructor by January 27, 2017)

Instructor:	Dr. Benny E. Arney	Semester:	Spring 2017
Classroom	CFS 123	Class Time	MWF 8:00-8:50 AM
Office Phone:	294-1531 off-camp ext. 41531 on-camp	Email:	CHM_BEA@SHSU.EDU
Office:	CFS 326 Or CFS 305 or CFS323	Office Hours:	TuTh 9:00-11:00 AM MoWe 2:30-3:30 PM or by appointment

Textbook (required): Joel Karty, "Organic Chemistry: Principles and Mechanisms", W.W. Norton & Company, Inc., New York, NY, 2014, ISBN 978-0-393-91904-2. Must bring book to every class.

Course Description:

This is the second half of a two-semester course in organic chemistry. Topics include the properties, synthesis, and reactions of alcohols, ethers, ketones, aldehydes, conjugated systems, amines, and carboxylic acids & derivatives. This course builds upon the material covered in the first semester (chap. 1-9, 12, 13, & 16) which will be assumed as common knowledge.

The course is based on time outside of class spent reading and working the associated problems of the assigned materials and the in-class time devoted to review and clarification of the assigned material and working illustrative problems. It is very important to realize that the in-class time is virtually useless for learning the material if one has not read and studied the required material before class and works very diligently to do the problems in the text, both in the chapter and at the end of the chapter. Questions in class are welcomed, but only for the current material. If there are questions or problems from previous lectures or material, bring them to me before or after class during office hours or make an appointment for other times. Additionally, tutors will become available from the Department after laboratories begin.

STUDENTS WITH DISABILITIES POLICY:

It is the policy of Sam Houston State University that individuals otherwise qualified shall not be excluded, solely by reason of their disability, from participation in any academic program of the university. Further, they shall not be denied the benefits of these programs nor shall they be subjected to discrimination. Students with disabilities that might affect their academic performance should register with the Office of Services for Students with Disabilities located in the Lee Drain Annex (telephone 936-294-3512, TDD 936-294-3786, and e-mail disability@shsu.edu). They should then make arrangements with their individual instructors so that appropriate strategies can be considered and helpful procedures can be developed to ensure that participation and achievement opportunities are not impaired.

SHSU adheres to all applicable federal, state, and local laws, regulations, and guidelines with respect to providing reasonable accommodations for students with disabilities. If you have a disability that may affect adversely your work in this class, then I encourage you to register with the SHSU Services for Students with Disabilities and to talk with me about how I can best help you. All disclosures of disabilities will be kept strictly confidential. NOTE: No accommodation can be made until you register with the Services for Students with Disabilities. For a complete listing of the university policy, see:

http://www.shsu.edu/dept/academic-affairs/documents/aps/students/811006.pdf

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Prerequisites:

Students in this course must have successfully completed CHM 2323 and CHM 2123 with a grade of **C** or higher. Concurrent enrollment in CHM 2125 is strongly encouraged.

Cell Phones must be turn off during class. If your cell goes off in class, you **will** be ejected from the classroom. No ear mounted phones or ear phones (I-pods) are allowed in class. **During tests you are not allowed to have a cell phone at your desk**. You will be ejected from the test if you have one in your possession or if your cell-phone goes off.

NO use of electronic devices is allowed during class without the written documentation from the Office of Student with Disabilities.

Required Materials:

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

THE REACTIONS, MECHANISMS, AND NOMENCLATURE FROM CHM2323 ARE REQUIRED KNOWLEDGED AND WILL NOT BE

REVIEWED. If you have forgotten this material, review, review, and review, on your own, of course.

Critical Learning Techniques:

Before each class meeting, it will be essential for you to complete the assigned reading and be working the homework problems 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 will be essential for you to attend class regularly. Class attendance will not be used, however, as a criterion for evaluating student performance.

Objectives: Skills to be Acquired This Course:

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

1. Understanding of molecular structure and geometry as the result of atomic electronic geometry (hybridization).
2. Ability to distinguish the hydrocarbons into alkanes, alkenes, alkynes, aromatics, or composites based on structure.
3. 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.
4. Ability to name, using IUPAC rules, alkanes, alkenes, alkynes, alkyl halides, alcohols, ether, ketones, aldehydes, esters, amines, amides, nitriles, carboxylic acids, acid halides, acid anhydrides, and composites.
5. Know the reactions and preparation of alkanes.
6. Know the reactions and preparation of alkyl halides.
7. Know the reactions and preparation of alkenes and alkynes.
8. Know the reactions and preparation of alcohols.
9. Know the reactions and preparation of ethers.
10. Know the reactions and preparation of aromatics.
11. Know the reactions and preparation of aldehydes.
12. Know the reactions and preparation of ketones.
13. Know the reactions and preparation of amines.
14. Know the reactions and preparation of carboxylic acids.
15. Know the reactions and preparation of esters.
16. Know the reactions and preparation of amides.
17. Know the reactions and preparation of nitriles.
18. Know the reactions and preparation of acid halides.

19. Know the reactions and preparation of acid anhydrides.
20. Know the general condensation reactions.
21. Understand and utilize the relative acid-base properties of atoms in various functional groups.
22. Understand and discuss structure-stability trends for reactive intermediates and stable molecules.
23. Predict the behavior of molecules under reaction conditions.
24. Predict relative physical and chemical properties of similar molecules based on comparative structure.
25. Predict possible products of reactions as well as the major product.
26. 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.
27. Ability to compose a reasonable synthesis of relatively simple organic compounds based on structure and a knowledge of basic reactions.
28. Ability to apply structural features of a compound to explain the chemical properties and stabilities observed.
29. Fundamental understanding and ability to interpret IR, MS, and NMR spectroscopic data.

Examinations:

No examination may be taken earlier or later than the scheduled time. DO NOT EVEN ASK.

There will be four (4) in-class, closed-book examinations, each worth 100 points. Any exam that is missed will be replaced by the percentage grade on the final. The total number of exam grade points is 400 points. **Spectroscopy will be a component of every examination.**

A final, **comprehensive** examination (covering **both semesters**) will be given at the University scheduled time. This exam will be worth 200 points. All students must take this exam (the score obtained cannot be dropped). **A score of 60 points (out of 200) or less on the final exam or a missed final will result in an "F" for the course regardless of other points earned**. The total number of exam points possible is 600.

All tests (except the Final Exam) will be graded and returned as soon as possible, which is usually by the next class meeting. Tests will not be discussed or reviewed in class. Questions about the grading of assignments may be discussed during office hours or by appointment.

Make-up Tests and Quizzes:

There are none do not ask.

Grade Information:

Information about your grades is only available by receiving it from the prof in person or on your graded work or via BlackBoard. Do not phone or email about your grades.

Grading:

A letter grade will be assigned based on your total accumulated points:

4 (A)	540 - above ≥90%
3 (B)	480 – 539 ≥80%
2 (C)	420 – 479 ≥70%
1 (D)	360– 419 ≥60%
0 (F)	359 or below ≤60%

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.

Schedule for Readings Reviews

Date	Topic	Reading Assignment & Suggested Problems
Jan 18	Nucleophilic Substitution	10.1 – 10.6
20		10.7 – 10.10
23	Organic Synthesis 1	13.1 – 13.4
25		13.5 – 13.8
27	MO theory and Chemical reactions	Interchap 1.1 – 1.5
30		IC 1.6 – 1.8
Feb 1	Orbital Interations 2	14.1 – 14.5
3	**(Last day to drop w/o grade of "Q" & receive 100% refund)**	14.6 – 14.10
6		14.11 – 14.2
8	Structure Determination: UV and IR	15.1 – 15.3
10	**Exam 1**	
13		15.4-15.7, 17.1 – 17.2
15	Nucleophilic Addition to Polar π-Bonds 1	17.3 – 17.9
17		17.10 – 17.15
20	Nucleophilic Addition to Polar π-Bonds 2	18.1 – 18.4
22		18.5 – 18.10
24		18.11 – 18.14
27	Organic Synthesis 2	19.1 – 19.4

Mar 1		19.5 – 19.7
3	**Exam 2.**	
6	Nucleophilic Addition-Elimination Reactions 1	20.1 – 20.5
8		20.6 – 20.9
10	Nucleophilic Addition-Elimination Reactions 2	21.1 – 21.5
13-17	**Spring Break**	21.6 – 21.10
20		21.11 – 21.14
22	Electrophilic Aromatic Substitution 1	22.1 – 22.5
24		22.6 – 22.10
27	Electrophilic Aromatic Substitution 2,	23.1 – 23.5
29		23.6 – 23.10
31		23.11 – 23.14
Apr 3	Diels-Alder and other Pericyclic Reactions	24.1 – 24.4
5	**Exam 3**	
7		24.5 – 24.8
10		24.9 – 24.11
12	Reactions involving Free radicals(**Last day to drop with a grade of "Q")**	25.1 – 25.5
14	State Religious Holiday for Students	25.6 – 25.9
17	Fragmentation Pathways in Mass Spectrometry	Interchap. 2
19	Polymers	26.1 – 26.4
21		26.5 – 26.9
24		
26		
28		
May 1		
3		
5	**Exam 4 (Last Day for Resignation)**	

Homework Problems:

You have a standing homework assignment to complete the problems at the end of each chapter as we progress through the book. These problems are not to be turned in, but are to be used by you as a measure of your progressive understanding and assimilation of the material. Remember to periodically go back and redo random problems from older chapters. If you get stuck, come me for help. **If you cannot solve the problems without the book or study guide then you cannot solve the problems and are not ready for the next test.**

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 and outlining 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?
4. Have I prepared for the exams by working on assignments daily and not waiting until two or three days before the exam?

Academic Dishonesty:

All students are expected to engage in all academic pursuits in a manner that ia 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 (by the professor) 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 abuse of resource material.

Classroom Rules of Conduct:

Students will refrain from behavior in the classroom that intentionally or unintentionally disrupts the learning process and the mission of the university.

1. If you have a question or wish to attempt to answer a question, raise your hand. Blurting out answers or whispering answers is not useful especially if multiple persons are doing so simultaneously.

2. If the instructor has written or stated something in error, please raise your hand and point it out. Even profs are prone to errors in the middle of talking/writing/walking/reading.

3. **Cell phones and pagers must be turned off before class begins. If your cell phone or pager "goes-off" you are required to leave the class room and not return until the next class period. This applies even during a test.**

4. The classroom is not for individual instruction, tutoring, or addressing questions about a particular grade. These types of interactions should be addressed during office hours or by appointment. It is disruptive and a waste of the other students' time and efforts to do this in class.

5. Students may not do the following during class.

   a. Use any unauthorized electronic devices in class.
   b. Pop bubble gum or crack their knuckles.
   c. Use tobacco/vaping products.
   d. Use offensive, disruptive or obscene language or remarks.
   e. Read newspapers or non-class related materials.
   f. Carry on personal conversations.
   g. Engage in distractive behavior.
   h. Wear hats or distractive clothing.

Students engaging in inappropriate behavior or being especially disruptive shall be directed to leave the classroom. Students who are excessively or 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 class must present a current, official SHSU identification card to be permitted in the classroom. They must not present a disruption to the class by their attendance. If the visitor is not a registered student enrolled for the class, it is the instructor's discretion whether or not the visitor will be allowed to remain in the classroom.

Student Acknowledgement of Syllabus:

I, _____*(your name)* having SHSU ID# _____, have printed the syllabus for CHM 2325 (Spring 2017). I further acknowledge that I have read said syllabus and that I am familiar with its contents. I also recognize that my continuance in this course requires that I agree to its content and requirements and that changes to this syllabus are only possible if they further the aims of the course as deemed appropriate by the professor.

I am also aware that questions and/or problems with the course must be addressed to the instructor. If these problems are not part of the day's scheduled material, it should be addressed after class, during office hours, or by appointment.

Signed :_____

Date:_____