

Introduction to Organic Chemistry

CHEM 2303 Fall 2013

Tuesday and Thursday, 11:00 am – 12:20 pm, Room 107

Welcome to organic chemistry!

INSTRUCTOR

Dr. David M. Birney

Phone: 742-3063, Office: Chemistry 232-C

E-mail: david.birney@ttu.edu

Course web site, start at: <http://www.depts.ttu.edu/chemistry/>, then look at faculty/birney.

Office hours are 12:30 PM - 1:30 PM, Tuesday, Wednesday and Thursday, or by appointment.

Text: Organic Chemistry, A Short Course, Hart, Hadad, Craine, and Hart, thirteenth edition

COURSE OUTLINE

Topics are Subject to Change, Quiz and Exam Dates are Not

Aug. 27	Introduction and review of topics from general chemistry	
Aug. 29 – Sept. 10	Oil, gas and coal Structure and properties of organic molecules	Chapter 1
Sept. 3	Quiz 1 due	Sections 2.1-2.11
Sept. 11	Last day to drop without penalty	3.1-3.5, 3.18-3.19
Sept. 12	Quiz 2 in class	pg 46, 98, 102
Sept. 12 – 24	Combustion and global warming Reactions and energetics	Sections 2.12, 2.13, 3.11-3.12, 12.1, 12.4,
Sept. 26	EXAM 1 in class	12.5, pg 44, 102, 105
Oct. 1 – 10	Chemistry of fats Alkenes and esters	Sections 2.7, 2.8, 3.5 10.1-10.13
Oct. 10	Quiz 3 in class	Chapter 15
Oct. 15 – 29	Pesticides, carcinogens and other nasty stuff Substitution and Elimination Reactions	Sections 4.1-4.8, Chapter 6, 8
Oct. 24	Quiz 4 in class	pg 136, 137, 193
Oct. 28	Last day to drop	
Oct. 31	EXAM 2 in class	
Nov. 5 – Nov. 12	Ethanol, Soil chemistry Alcohols, phenols	Chapter 7
Nov. 14	Quiz 5 in class	
Nov. 14 – 19	Sugars, Carbs and Fiber (cotton and others)	Chapter 5, 16
Nov. 21	EXAM 3 in class	Sections 9.1-9.8 pg 172, 174, 479 482
Nov. 26 – Dec. 3	Beer brewing, other topics to be announced	
Nov. 27 – 29	Thanksgiving break, no class	
Dec. 3	Quiz 6 due	

FINAL EXAMINATION:

Wednesday, December 11th, 2012, 1:30 PM to 4:00 PM, room 107 Chemistry

MY GOAL FOR THE COURSE

I am pleased to welcome you to Organic Chemistry. This course seeks to make connections between textbook organic chemistry and the places where it impacts and informs everyday life. To the extent possible, it will be structured as a series of case studies; you will gain the textbook knowledge along the way. To understand organic chemistry requires mastery of some fundamental properties and reactions of organic molecules; to understand much of modern life requires the ability to understand and apply those principles.

I want to do all I can to ensure that each of you do the best you can. Let me encourage you that it is possible to do well in the course if you work hard. Please feel free to ask me any questions, including those where organic chemistry might be relevant.

LEARNING OUTCOME

The successful student will be able to:

- 1) identify and explain the structures and reactivities of organic functional groups, including alkanes, alkenes, alkynes, aromatics, halides, alcohols, ethers, acids and derivatives, amines;
- 2) explain these in the context of general chemistry concepts including acid/base chemistry, enthalpy and entropy, covalent and ionic bonding, and Lewis structures;
- 3) predict reactions of organic compounds and will be able to recognize and explain the consequences of these structures and reactivities in everyday applications.

ASSESSMENT

Quizzes and exams: Pay close attention to the attached schedule; *if there is an excellent reason and only if it is approved in advance by me*, a quiz or an exam may be made up. This includes religious holy days and University approved trips. There will be three exams during the semester, in addition to the final exam. The final exam will be a cumulative exam, covering material from the entire semester. There will be six quizzes worth 20 points each. The first will be a take-home assignment. Four of these will be short (15 minute) in class quizzes. The last one will be a writing assignment. Answer keys will be posted in the display cabinets by my office.

Grading:	Three hour exams at 100 points each	= 300 points
	Sum of the <i>best five</i> quizzes (5 x 20)	= 100
	Final examination	= 200*
	Total	= 600 points

*It may be to your advantage to have the final count as 300 points, and to drop your lowest hour exam score. If this is so, it will be done in the final calculation of your grade. Thus,

540 - 600 points = A	The grade of incomplete will be given only if you cannot continue in the course due to circumstances beyond your control and have been earning a passing grade up until this point. You must meet with Dr. Birney to discuss an incomplete.
480 - 539 points = B	
420 - 479 points = C	
360 - 419 points = D	
0 - 359 points = F	

Schedule and reading assignments: You are expected to read the assignments prior to the lectures. There will be changes in the reading schedule, depending on the speed at which material is covered in class. Quizzes 2-5 and all hour exams are in class; the dates will not change.

Suggested problems: *Working problems is essential to your mastery of organic chemistry.* You should work all the problems in each chapter as you read it as well as the suggested problems from the end of each chapter. These are not to be turned in.

Study suggestions: Read the suggested material prior to class; you will have an advantage from the start. Ask questions! Consciously develop your repertoire of principles and reactions. Work the problems in the text as you read and then do the suggested homework problems, and check your answers. Some questions on the quizzes and exams *will be* taken directly from homework questions; the others will be similar in style and content. Organic chemistry is a cumulative subject. You will need to remember what you learned in general chemistry and what you learn at the beginning of this course will still be important at the end. You will have to do some memorization, but be sure you understand and can apply specific reactions as well as the general principles. Study with a friend, or form a study group.

Regrading: (Question authority!) When exams are returned you should review the answer key to learn from your mistakes. In doing so, if you feel that a question may have been graded in error, you are likewise encouraged to discuss that with me. However, you must do the following:

- (1) You must not write on the exam.
- (2) You must write a note describing the grading error you wish to have reconsidered and sign it indicating that you have not written on the exam.
- (3) You must ask for the regrade within four weekdays of when the exams are returned.

Special Conditions: Any student who, because of a disability, may require special arrangements in order to meet the course requirements should contact the instructor as soon as possible to make any necessary arrangements. Students should present appropriate verification from Student Disability Services during the instructor's office hours. Please note instructors are not allowed to provide classroom accommodations to a student until appropriate verification from Student Disability Services has been provided. For additional information, you may contact the Student Disability Services office in 335 West Hall or 806-742-2405.

Academic Honesty: It is the aim of the faculty of Texas Tech University to foster a spirit of complete honesty and high standard of integrity. The attempt of students to present as their own any work not honestly performed is regarded by the faculty and administration as a most serious offense and renders the offenders liable to serious consequences, possibly suspension. The use of textbooks, notes, pagers, cell phones, and calculators are not allowed in any quiz or exam.

Religious Holy Day: A student who intends to observe a religious holy day should make that intention known to the instructor prior to the absence. A student who is absent from classes for the observance of a religious holy day shall be allowed to take an examination or complete an assignment scheduled for that day within a reasonable time after the absence.

Enjoy!