CHEM 30B – INTRODUCTORY ORGANIC CHEMISTRY AND BIOCHEMISTRY
Spring 2016, Laney College

Welcome to Chem 30B!

Meeting Time/Place:
Lecture (Class Code 21752) TuTh 1:00PM - 2:15PM in A273
Lab (Class Code 21753) TuTh 2:30PM - 3:45PM in A235

Instructor: Hui Sun Kim
Office: A237A
Email: hkim@peralta.edu (Please include "Chem 30B" in the subject line.)
Office Hours: TTh 12:00-1:00 pm, in A237A
Class Website: www.laney.edu/wp/huisunkim/

Required Materials
1. Text: McMurry, Ballantine, Hoeger, & Peterson. *Fundamentals of General, Organic, and Biological Chemistry*, 7th Edition (6th edition is fine.)
2. Lab Manual: Chem 30B Lab Manual, Laney IMC
3. (Recommended) McMurry, Susan. *Study Guide and Selected Solution Manual* for the textbook

Attendance Policy: According to Laney College policy, students are allowed a total of 2 weeks of absences. Thus, you will be allowed a total of 4 absences (since this class meets twice a week). If you are absent from class five or more times, you will be dropped from the class.

Last day to drop without a "W": 02/07/16
Last day to drop with a "W": 04/23/2016

Course Description
Chem 30B is a one-semester overview of basic organic chemistry and biochemistry. The topics covered are: hydrocarbons; organic functional groups, nomenclature, and reactions; polymers, carbohydrates, proteins, enzymes, lipids, nucleic acids, protein synthesis, and metabolic pathways. [Prerequisite: Chem 30A]

Grading and Evaluation
A. Exams: The following exams will be given:
- Three Mid-Term Exams
- ACS Exam: Given at end of course.
- Final Exam: The final is comprehensive.
- ***No make-up exams will be given.*** If an emergency comes up, you must notify me before the exam by email or in person. For an excused absence, you may be assigned a score calculated from your other exam scores.

B. Quizzes: Weekly quizzes will be given on Thursdays, unless a mid-term exam is scheduled for that day. These quizzes will cover both lecture and lab material from the previous week. The quiz with the lowest score will be dropped. ***No make-up quizzes will be given.***

C. Homework: Homework will be collected on Tuesdays, and graded mainly for completeness. The solutions are available in the solution manual, and you are responsible for checking the accuracy of your answers. For each homework assignment, you must show your work, and write your answers in your own words. When you turn in your homework, write on the top of the first page the number of problems you honestly attempted, and circle it.
Homework that is one class period late will have 25% deduction; more than 1 class period late- not accepted.

D. Laboratory Reports: Lab reports are typically due on Tuesdays following the week of experimentation (Please see attached schedule for exact due dates). Before coming to each lab, you are expected to write a pre-lab, which consists of a brief outline of steps for the experiment, in the form of a flow chart, list, or summary. The pre-lab will be checked by the instructor at the beginning of each experiment. ***No makeup labs will be given.*** However, your lowest grades on two days of lab will be dropped, so you may miss one or two lab days without penalty. Any attempt to turn in a lab report for a lab you did not do will be considered cheating. It is possible to lose points on your lab report if you do not follow the laboratory safety rules! ***A lab report that is one lab day late will have 25% deduction; more than 1 lab day late- not accepted.***

*An objective of this course is to give you practice in various lab techniques; thus, you will not pass this course if you miss more than 4 lab sessions, no matter how many other points you have!

The overall course grade will be based on total points.

Assignment	**Points**	**%**
Midterm Exams (3x100 pts)	300	34
Final Exam	150	17
ACS Exam	50	6
Quizzes (Best 9 of 10 x12 pts)	108	12
Laboratory Reports (Best 21 of 23 lab days x 10 pts)	210	24
Homework (15x 5 pts)	65	7
Total	**883**	**100%**

Range:	89-100 %	A		
	79-88 %	B	55-67 %	D
	68-78 %	C	under 55%	F

Textbook Chapters Covered in this Course
Chapter 12: Alkanes
Chapter 14: Alkenes, Alkynes, and Aromatic Compounds
Chapter 15: Alcohols, Phenols, and Ethers
Chapter 16: Aldehydes and Ketones
Chapter 17: Carboxylic Acids and Their Derivatives
Chapter 18: Amino Acids and Proteins
Chapter 19: Enzymes and Vitamins
Chapter 20: The Generation of Biochemical Energy
Chapter 21: Carbohydrates
Chapter 22: Carbohydrate Metabolism

Chapter 23: Lipids
Chapter 24: Lipid Metabolism
Chapter 25: Nucleic Acids and Protein Synthesis

Student Learning Outcome

At the end of this course, you will be able to:

1. Apply IUPAC naming rules to organic compounds.
2. Predict the structures of the products of organic reactions.
3. Predict and explain trends in boiling point and solubility of organic compounds using concepts of intermolecular forces.
4. Perform lab techniques correctly using appropriate safety procedures.
5. Correctly analyze and interpret the results of laboratory experiments.
6. Draw structures of and apply organic chemistry concepts to biological molecules.

Advice and Expectations

a. **Keep up with the work!** This course is fast-paced, and it is a challenge to catch up once you get behind.

b. **Please do your homework mindfully.** Working a lot of problems is critical to learning chemistry, so many homework problems will be assigned. Put in an honest effort to solve the problems before turning to the solution manual (Caveat: A few of the answers in the solution manual may be incorrect). A majority of the exam problems are the same type of problems encountered in homework assignments.

c. Any questions about the grading of a returned test or assignment must be addressed to me by one class meeting following the return of the test or assignment.

d. The classroom is a safe place for learning and expression. Questions and discussions relevant to lecture are strongly encouraged. Cell phones, i-Pods, laptops, or other electronic devices besides the calculator are not to be used during class or lab, and should be turned off.

e. Academic honesty: It is fine to discuss your homework and lab work with each other. It is not acceptable to copy sentences from other students or allow another student to copy from you. Always put your explanations and reports in your own words. It is not acceptable to collaborate on exams and quizzes. Any instances of cheating, copying, or plagiarism on any assignments or tests will result in a zero on the assignment. If you are caught cheating a second time, you will be referred to the dean's office for disciplinary action. If I see you looking at someone else's paper or talking during a test, I will assume that you are cheating.

CHEM 30B H. Kim: Lecture and Lab Schedule for Spring 2016 (May be subject to minor changes.)

Wk	Date	Lecture	Lab	Assignments Due
1	Tu 01/26	Intro, Ch 12. Alkanes	Check in, Exp 1: Organic Lab Safety	
	Th 01/28	Ch 12 continued	Exp 2: Properties of Organic Compounds	Exp2 Prelab
2	Tu 02/02	Ch 12 continued	Exp 3: Molecular Models & Isomers	Hmwk 1, Exp 1&2 Lab Reports, Exp3 Prelab
	Th 02/04	Ch 13. Alkenes, Alkynes, and Aromatic Compounds **QUIZ #1**	Exp 3 continued	
3	Tu 02/09	Ch 13 continued	Exp 4: Physical Properties of Organic Compounds	Hmwk 2, Exp3 Lab Report, Exp4 Prelab
	Th 02/11	Ch 14. Some Compounds with Oxygen, Sulfur, or Halogen **QUIZ #2**	Exp 4 continued	
4	Tu 02/16	Ch 14 continued	Exp 5: Reactions of Hydrocarbons	Hmwk 3, Exp4 Lab Report, Exp5 Prelab
	Th 02/18	Ch 15. Amines **QUIZ #3**	Exp 5 continued	
5	Tu 02/23	Ch 16. Aldehydes and Ketones	Review	Hmwk 4, Exp5 Lab Report
	Th 02/25	**EXAM #1 (Chpts. 12-15)**	Exam #1 continued	
6	Tu 03/01	Ch 16 continued	Exp 6: Alcohols and Phenols	Hmwk 5, Exp6 Prelab
	Th 03/03	Ch 17. Carboxylic Acids and Their Derivatives **QUIZ #4**	Exp 6 continued	
7	Tu 03/08	Ch 17 continued	Exp 7: Aldehydes, Ketones, and Carboxylic Acids	Hmwk 6, Exp6 Lab Report, Exp7 Prelab
	Th 03/10	Ch 18. Amino Acids and Proteins **QUIZ #5**	Exp 7 continued	
8	Tu 03/15	Ch 18 continued	Exp 8: Synthesis of Aspirin	Hmwk 7, Exp 7 Lab Report, Exp8 Prelab
	Th 03/17	Ch 19. Enzymes and Vitamins **QUIZ #6**	Exp 8 continued	
9	Tu 03/22	**Spring Break**		
	Th 03/24			
10	Tu 03/29	Ch 19 continued	Exp 9: Amino Acids and Proteins (part)	Hmwk 8, Exp 8 Lab Report, Exp9 Prelab
	Th 03/31	**Holiday**		
11	Tu 04/05	Ch 20. Generation of Biochemical Energy	Review	Hmwk 9, Exp 9 lab report
	Th 04/07	**EXAM #2 (Chpts 16-19)**	Exam #2 continued	

12	Tu 04/12	Ch 20 continued	Exp 10: Enzymes	Hmwk10, Exp10 Prelab
	Th 04/14	Ch 21. Carbohydrates **QUIZ #7**	Exp 10 continued	
13	Tu 04/19	Ch 21 continued	Expt 11: Carbohydrates	Hmwk 11, Exp 10 Lab Report, Exp11 Prelab
	Th 04/21	Ch 22. Carbohydrate Metabolism **QUIZ #8**	Exp 11 continued	
14	Tu 04/26	Ch 22 continued	Exp 12: Lipids	Hmwk 12, Exp11 Lab Report, Exp12 Prelab
	Th 04/28	Ch 23. Lipids **QUIZ #9**	Exp 12 continued	
15	Tu 05/03	Ch 23 continued	Review	Hmwk 13, Exp12 Lab Report
	Th 05/05	**EXAM #3 (Chpts 20-22)**	Exam #3 continued	
16	Tu 05/10	Ch 24. Lipid Metabolism	Exp 13: Saponification	Hmwk 14, Exp13 Prelab
	Th 05/12	Ch 25. Nucleic Acids and Protein Synthesis **QUIZ #10**	Exp 13 continued	
17	Tu 05/17	Ch 25 continued	Review	Hmwk 15, Exp13 Lab Report
	Th 05/19	Review	ACS Exam	
18	Tu 05/24	**FINAL EXAM** 1:00-3:45 pm		