Chemistry S342 Organic Chemistry Fall 2009

Instructor:	Silas Cook	**Office:**	Chemistry A312
Office Hours:	M, Tue: 1:30-2:30 PM	**Email:**	sicook@indiana.edu
Lecture Time:	M, W, F: 9:05-9:55 AM	**Location:**	BH233
Discussion Time:	M: 6:50-7:40 PM	**Location:**	TBA
AI:	Angela Carrillo	**Office:**	Simon Hall 208B
Office Hours:	TBA	**Email:**	acarrill@indiana.edu

Text: *Organic Chemistry*, P. Y. Bruice (5th Edition)
Supplies: Solutions manual and a molecular model set is recommended.

There will be material in the textbook that is not covered in the lecture, and material in the lecture not overtly found in the text. You are responsible for both, as well as any handouts.

Discussion Sections: Sessions will involve collective problem solving efforts to help you better understand material being covered in lecture. These sessions are not optional. Unannounced quizzes will be periodically given in discussion sessions. There will not be make up quizzes.

Grades and Exams: Course grades will be determined based on 3 one-hour exams, 5 ten-minute quizzes and a comprehensive final. The final will be held during the scheduled examination period. Quizzes are addressed in the discussion section. Exams count for 100 points each, quizzes count for 10 points each, and the final exam counts for 200 points. There will be no make up exams, however your lowest exam and quiz scores will be dropped. You may miss an exam without penalty (your percentage score on the final will be substituted), however you must email me **beforehand** to tell me that you will miss it or you will receive a zero on the exam. The final is not optional. Students are strongly advised to take all exams.

Regrade requests are permitted on all exams, but not the final. To receive consideration, regrades must be submitted in writing by the end of the class session following the class in which exams were returned. Please look carefully at the answer key before submitting a regrade, as the entire test will be regraded.

Exam Dates:	Tuesday	7:15-9:15 PM	Sept. 29
	Tuesday	7:15-9:15 PM	Nov. 3
	Tuesday	7:15-9:15 PM	Dec. 1

Handouts and Course Assignments: All handouts and assignments will be put on the Web. Course notes will not be available from the instructor.

Homework Problems: Suggested problems will be assigned. Work as many of them as you need to master the concepts involved and to develop your ability to communicate your knowledge of organic chemistry on paper. Problem sets will not be graded. It is appropriate for students to work together on assigned problems.

Extra Credit: Bonus points will be available on a continuous basis according to the details described in the Extra Credit handout. Up to one extra credit assignment every two weeks can be turned in for 2 pts./assignment (giving a total of 16 extra points). The assignments have deadlines. Consequently, you can only get all of the points if you turn in the assignment every two weeks – and not all at the end of the semester.

Withdrawals: All withdrawals are handled in the Undergraduate office. They sign the slip and the professor's signature is not required.

Incompletes: Incompletes are only allowed for reasons of prolonged illness or similar distress. The regulation is as follows: "A grade of I may be given only when the work of the course is substantially completed and when the student's work is of passing quality."

S342 vs. C342: This class will cover slightly more material than C342, and in slightly greater detail. However, exams are written at the same level of difficulty as C342, and graded with the same expectations. Therefore students are neither penalized, nor aided in terms of grading by taking S342.

Helpful Tips for Learning Organic Chemistry:

1. Your textbook is your primary learning resource. It is clearly written and was carefully chosen for this reason. Read the assigned sections, and make a serious effort to understand the material before coming to class. In class we will stress the most important points and clarify difficult material. Class time will not permit us to cover everything that has been assigned.

2. Clarify issues as they come up. Organic chemistry is a cumulative subject; understanding new material depends on having mastered what has come before. It is essential you keep up. If uncertainties arise, think it through, re-read the textbook, consult your classmates, bring it up in discussion section and/or come to office hours.

3. Work the assigned problems. You cannot learn to do organic chemistry without practicing it. Make sure that you understand the problems rather than just being able to produce answers.

4. There is a lot of material in organic chemistry that must be memorized. However, most students have more trouble using concepts constructively than memorizing it. Do not confuse memorizing class material with understanding it. Understanding implies the ability to use the material in novel contexts. Can you explain the material to a classmate?

5. Studying in a group can be an extremely effect mechanism for mastering the material. Try to arrange study groups so that all members have the same discussion section.

Topics/Reading List (dates and spacing are approximate)

Day/Date	Topic	Reading
Mon 8/31	Introduction and Review	Chapters 1-11
Wed 9/2	Aromaticity	Chapter 14
Fri 9/4	Aromaticity and Benzene Reactions	Chapter 14
Mon 9/7	Electrophilic Aromatic Substitution	Chapter 14-15
Wed 9/9	EAS and Nucleophilic AS	Chapter 15
Fri 9/11	Oxidation and Reduction	Chapter 19
Mon 9/14	Oxidation and Reduction	Chapter 19
Wed 9/16	Aldehydes and Ketones: Naming	Chapter 17
Fri 9/18	Aldehydes and Ketones: Preparation	Chapter 17
Mon 9/21	Aldehydes and Ketones: Reactivity	Chapter 17
Wed 9/23	Aldehydes and Ketones: C Nucleophiles	Chapter 17
Fri 9/25	Aldehydes and Ketones: Wittig Reaction	Chapter 17.13
Mon 9/28	**Review for Exam I**	
Wed 9/30	Carboxylic Acids: Properties	Chapter 16
Fri 10/2	Carboxylic Acids: Derivatives	Chapter 16
Mon 10/5	Carboxylic Acids: Derivatives	Chapter 16
Wed 10/7	Carboxylic Acids: Derivatives	Chapter 16
Fri 10/9	Enols and Enolates	Chapter 18
Mon 10/12	Aldol Reactions	Chapter 18
Wed 10/14	Ring-Forming Reactions	Chapter 18
Fri 10/16	Condensation Reactions	Chapter 18
Mon 10/19	α,β-Unsaturation	Chapter 17.16-17.18
Wed 10/21	Conjugate Additions	Chapter 17.16-17.18
Fri 10/23	Amines	Chapter 20
Mon 10/26	Amines: Preparation	Chapter 20
Wed 10/28	Amines: Reactions	Chapter 20
Fri 10/30	Heterocycles	Chapter 20
Mon 11/2	**Review for Exam II**	
Wed 11/4	Carbohydrates	Chapter 21
Fri 11/6	Carbohydrates	Chapter 21
Mon 11/9	Carbohydrates	Chapter 21
Wed 11/11	Amino Acids	Chapter 22.1-22.6
Fri 11/13	Amino Acids	Chapter 22.10-22.1
Mon 11/16	Catalysis: Intro	Chapter 23.1-23.6
Wed 11/18	Catalysis	
Fri 11/20	Pericyclic Reactions	Chapter 29
Mon 11/23	Pericyclic Reactions	Chapter 29
Mon 11/30	**Review for Exam III**	
Wed 12/2	Lipids	Chapter 26
Fri 12/4	Drug Discovery	Chapter 30
Mon 12/7	Drug Discovery	Chapter 30
Wed 12/9	Summary/Overview	
Fri 12/11	Summary/Overview	

Mon 12/14 8:00 AM-10:00 AM Final Exam

All Readings are from "Organic Chemistry" 5th edition by P. Y. Bruice