

Chem 6400 (/4400)\*  
 Fall Semester 2016  
 Room: 425 Classroom South  
 2:30-3:45 p.m. TT

Required Text: Advanced Organic Chemistry, 5th Edition, Part A; Carey and Sundberg

Professor: Dr. A. L. Baumstark (Office Hours-by appointment 404/413-5516); 386 PSC; [abaumstark@gsu.edu](mailto:abaumstark@gsu.edu)  
 Dr. J.Yin (Office Hours-by appointment 404/413-6090); 571 NSC; [junyin@gsu.edu](mailto:junyin@gsu.edu)

<u>Course Grade:</u>	<u>Tentative</u>	<u>Tentative Cutoffs</u>
Midterm (E)	23%/125 pts.	A+ = 95% (/94%)*
ACS Exam (Background)	14%/75 pts.	A = 90% (/89%)*
Problem sets, quizzes, etc.	18%/100 pts.	A- = 87% (/85%)*
Formal Final Paper± & Presentation	<u>23%/125 pts.</u>	B+ = 84% (/81%)*
± due Dec 8		B = 80% (/77%)*
		B- = 76% (/73%)*
	425 max.	C+ = 71% (/69%)*
		C = 66% (/64%)*
		C- = 62% (/60%)*

Note:

- Chapter 1 will not be covered in lecturer; Read Chapter 2 before the first lecture.
- NO make-up exams or quizzes will be given; late homework assignments can result in loss of credit. All exams except ACS are open book.
- Attached Department of Chemistry statement on student integrity also applies to homework for this course.
- Last day to drop with a W is October 11, 2013.
- Expectations and Presentation Evaluation will be appropriate for background of the individual student.

<u>Date</u> <u>(Tues)</u>	<u>Tues</u>	<u>Thurs</u>
Aug 23	L ALB	L ALB
Aug 30	L JY	L JY
Sept 6	L ALB	L ALB
Sept 13	L ALB	L JY
Sept 20	L JY	L JY
Sept 27	L ALB	ACS
Oct 4	E (Take-Home)	E (Exam due by 10 a.m.)
Oct 11	L* JY	L JY
Oct 18	L JY	L JY
Oct 25	L ALB	L ALB
Nov 1	L JY	L JY
Nov 8	L ALB	SP
Nov 1	SP	SP
Nov 22	H	H
Nov 29	SP	SP

L = Lecture

E = Take-Home Midterm Exam (Ch. 2-5) (Tentative) Note: After Midterm, special topics will be covered.

ACS = Standardized Background Exam

H = Holiday, no class

\*October 11 Drop Date; See Note 4

SP=Student Presentations

Chemistry Department Student Conduct and Integrity Policy

All tests taken and homework must represent your individual, unaided efforts. To receive or offer information during an examination or on homework assignments is cheating. The use of supplementary materials during tests or on homework assignments is allowed but must be referenced. Use of graded materials from previous terms is not allowed. Students are not allowed to contact faculty or students at other institutions for help. Conduct or actions that disrupt class or test periods or falsification of information related to chemistry courses by any student will be taken as violation of the policies of the Board of Regents of the University System of Georgia and the GSU Student Code of Conduct, Section 6.0. Any suspected offenses may be referred to the Department Chair or the Dean of Students for appropriate disciplinary action.

## Lecture Schedule of Chem 6400/4400 – Mechanistic Organic Chemistry

Textbook: Advanced Organic Chemistry, Part A: Structure and Mechanisms. 5<sup>th</sup> Edition (2007)

Week	Date	Instructor	Topic	Chapter	Home work
1	August 23 25	Baumstark	Stereochemistry	2	
		Baumstark	Stereochemistry	2	(1)
2	August 30 September 1	Yin	Conformation	2	(1) due
		Yin	Stereoelectronic effects	2	(2)
3	6 8	Baumstark	Kinetics	3	(2) due
		Baumstark	Linear free energy relationships	3	
4	13 15	Baumstark	Isotope effects	3	(3)
		Yin	Nucleophilic substitution S <sub>N</sub> 2	4	(3) due
5	20 22	Yin	S <sub>N</sub> 1, carboncation	4	(4)
		Baumstark	Nonclassical carbocations, Neighboring group effects	4	(4) due
6	27 29	Baumstark	Addition and elimination reactions	5	(5)
			<b>ACS exam</b>		(5) due
7	October 4 6		<b>Take home exam</b>		
			<b>Exam grading, no class</b>		
8	11 13	Yin	Carbanion , acidity	6	
		Yin	Carbonyl group	7	
9	18 20	Yin	Aromaticity	8	
		Yin	Aromatic substitution	9	
10	25 27	Baumstark	Pericyclic reactions	10	
		Baumstark	Pericyclic reactions	10	
11	November 1 3	Yin	Free radical reactions	11	
		Yin	Free radical reactions	11	
12	8 10	Baumstark	Photochemistry	12	
			Student presentations		
13	15 17		Student presentations		
			Student presentations		
14	22 24		<b>Thanksgiving break, no class</b>		
			<b>Thanksgiving break, no class</b>		
15	Nov. 29 December 1		Student presentations		
			Student presentations (if needed)		
16	December 6		<b>Final paper due</b>		

Homework	Chapter	Questions
1	2	1a-f; 2b-g; 3b-e; 13; 14a-d; 25a-f
2	2	4a-d; 7a-c, e; 8; 9; 10; 16
3	3	2; 4; 7a-b; 11; 12; handout questions
4	4	2a-g; 3a-d; 9b-c; 12; 13a; 20
5	5	1a-c, e-g; 2a, d, f, g; 3; 4; 19; 21a