

Syllabus for Organic Chemistry CHEMS221, Summer 2018

Important Notice Regarding O-Chem Lab:

At Yale, O-Chem Lab is a separate course, with its own unique course summer, syllabus and cost. Please see summer session course, CHEMS 223L, for more information

Lectures: M, T, W, T, F: 9:30-10:45 a.m. ROOM: TBA
Discussion Sections: M, W, F: 11:00 a.m. -noon * ROOM: TBA
*Subject to change to accommodate exam review sessions

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Office: 212 Sterling Chemistry Lab

TAs: TBA

Required Materials:

- A) Textbook: Organic Chemistry by Marc Louden and Jim Parise, Roberts and Company publishers, 2016 6th ed. ISBN 978-1-936221-34-9
- B) Corresponding Solutions Manual: ISBN 978-1-936221-86-8

Suggested Materials: Organic molecular modeling kit. Inexpensive options can be found through popular online suppliers (e.g. Mega Molecules)

Organic Chemistry as a Second Language; David Klein, ISBN-13: 978-1118010402

Lecture Schedule

	Topics	Textbook Chapter
July 2*,	Nuclear Magnetic Resonance What is it and how does it work?	13 (*Double lecture, no section. If at all possible bring a laptop with ChemDraw to class.)
July 3	Nuclear Magnetic Resonance What problems can NMR help solve?	13
July 4*	Alkynes	14 (* Not a holiday for us.)
July 5	Dienes, resonance and aromaticity How double bonds interact to show new behaviours	15
July 6	Dienes, resonance and aromaticity Characteristic reactions of conjugated systems	15
July 9	The chemistry of benzene and its derivatives	16
July 10	The chemistry of benzene and its derivatives	16
July 11	Allylic and benzylic reactivity	17
July 12	Exam 1: CH 13-16	
July 13	The chemistry of aryl and vinylic halides; transition metal catalysis	18
July 16	The chemistry of aldehydes and ketones	19
July 17	The chemistry of carboxylic acids	20
July 18	The chemistry of carboxylic acids	20
July 19	The chemistry of carboxylic acid derivatives	21
July 20	The chemistry of carboxylic acid derivatives	21

July 23	The chemistry of enolates, enols and α,β -unsaturated carbonyl compounds	22
July 24	Exam 2: CH 17-20	
July 25	The chemistry of enolates, enols and α,β -unsaturated carbonyl compounds	22
July 25	The chemistry of enolates, enols and α,β -unsaturated carbonyl compounds	22
July 26	The chemistry of amines	23
July 29	The chemistry of amines	23
July 30	Carbohydrates	24 (Review session to follow)
July 31	Amino acids, peptides and proteins	27 (Review session to follow)
August 1	Review	
August 2	Exam 3: CH 21- 24, 27 and CH 13-20	

Exam 1 (25%) and Exam 2 (25%) will each be 1 hour in length, beginning at 9:30 a.m. on their scheduled day. **Exam 3 (40%)** will be 2 hours long beginning at 9:30 am on its scheduled day

Letter Grades

Exam 1 (25%) + Exam 2 (25%) + Exam 3 (40%) + Participation (10%)

Students earn participation points based on attendance and entries into a problem solving journal. If you are more than 15 minutes late to a class meeting, you do not get the participation points.

Missed Exam Policy: Should a student miss Exam 1 or Exam 2, Exam 3 will count 65% toward the final grade. For that student, Exam 3 will include additional questions from Exam 1 or Exam 2 and the student will be given appropriate extra time to complete Exam 3.

Poor Performance on an Exam Policy: Should a student earn below 75% on Exam 1 and/or Exam 2, the student will have an opportunity to earn additional points by answering additional questions from Exam 1 and/or Exam 2 during Exam 3. The additional points earned will be added to Exam 1 and/or 2, up to a score of 75%, but not above. **Students scoring above 75% on the original Exam 1 and/or Exam 2 do not have this option.**

Missed Exam 3 Policy: A student that missed Exam 3 will have need to contact Dean Follansbee regarding make-up Exam arrangements.

Missed Exams 1 AND 2 Policy: A student who missed both early exams will be referred to Dean Follansbee.

After scale, if necessary

93+ = A; 89+ = A-; 86+=B+; 83+=B; 80+=B-; 77+=C+; 74+=C

Useful websites:

<http://www.chem.wisc.edu/areas/organic/index-chem.htm>

<http://www.organic-chemistry.org/>

<http://www2.chemistry.msu.edu/faculty/reusch/VirtTxtJml/intro1.htm> (some practice problems with answers)

http://www.departments.bucknell.edu/chemistry/courses/chem211/problem_sets/ (practice problems with answers for org. chem I)

<http://www.aceorganicchem.com/organic-chemistry-practice-exams.html> (test bank of questions and answers in organic chemistry)

<https://legacyweb.chemistry.ohio-state.edu/flashcards/> (organic chemistry flash cards)

http://evans.harvard.edu/cgi-bin/problems/search2a_selectKeywords.cgi (challenging problems in organic chemistry)