CHEM 2453 ORGANIC CHEMISTRY
Syllabus for Fall Quarter 2015

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Office Hours:	MTWF 9 – 10 AM in Olin 232 or by appointment	

Required Text and Solutions Manual:
Organic Chemistry, 5th Edition, by Marc Loudon
Study Guide and Solutions Manual to Accompany Organic Chemistry, 5th Edition
by Marc Loudon and Joseph G. Stowell

Recommended Model Kit:
Molymod #62053 Molecular Modeling Set from Indigo Instruments

Course Objective. Your primary course objective is to master the subject matter of the third quarter of the three-quarter course in organic chemistry. An understanding of organic chemistry is essential for mastery of subsequent undergraduate courses in biochemistry and physical chemistry and for achieving the high test scores necessary for admission to post-graduate or professional school. Your secondary course objective is to gain insight into the logical progression of scientific inquiry and scientific discovery. When the goals of undergraduate, post-graduate, and professional school are completed, this insight you have gained and an appreciation of organic chemistry in the world within and around you will help you make well-informed decisions in your chosen profession and as citizens, neighbors, parents, children, and patients.

"The purpose of education is to nurture thoughtfulness. The lesser function of thinking is to solve puzzles and problems."

Albert Einstein

Lectures. The lectures will loosely follow the progression of the textbook at a pace of approximately one chapter per week. The lectures are presented on the board at a pace which should allow you to take notes and think critically about the material presented. I will use four ink colors. I suggest you have four colors to reproduce the material presented. Questions are welcome at any time during the lecture.

Problem/Help Sessions. Tuesday problem-solving sessions provide an opportunity for you to test your command of the current lecture material.

Homework. Set aside time after every lecture to read the textbook, review your notes and complete textbook problems. Textbook problems relevant to each lecture are posted on Blackboard. Some exam questions will be taken from the textbook problems.

Science and Engineering Learning Center: Need extra help? The Science and Engineering Learning Center is a collaborative space staffed by undergraduate and graduate TAs trained to assist students with first and second year chemistry, physics, and engineering lecture and laboratory courses. Our goal is to help students grow as problem solvers by assisting with homework sets, lab reports, and exam preparation. The Science and Engineering Learning Center is **not** a one-on-one tutoring center, but is rather a support system where students can get guidance from TAs as well as their peers. This center is open to all DU students. All services are free. The Science and Engineering Learning Center is located in the northwest corner of the first floor of the Anderson Academic Commons (west of the writing center).

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Exams and Grading. There will be two 50 minute exams and one 105 minute comprehensive final exam. Each exam is worth 200 points. If your lowest 50 minute exam score is lower than your final exam score, the 50 minute exam score will be replaced by the final exam score. There are no make-up exams. If you miss a 50 minute exam for any reason, the 0 for that exam will be replaced by the final exam score. Your final grade will be based on 620 points: 600 points for the exams and 20 points for completion of the online course evaluation at the end of the quarter. Your course grade will be determined using the following scale:

	A		B			C			D		
Letter	A	A-	B+	B	B-	C+	C	C-	D+	D	D-
%	92	88	84	80	76	72	68	64	60	56	52
Points	570	546	521	496	471	446	422	397	372	347	322

Grade Curve. The raw score class average for each exam is announced in class and on Canvas. If the raw score class average is below 144 points (72% C+) your grade will be curved. To illustrate, if the raw score class average is 130, 14 points will be added to your raw exam score. Your curved exam score is posted on Canvas. The maximum curved exam score is 200 points.

Exam Review/Corrections. Answer keys are posted on Canvas for each exam. The exam answer key is usually reviewed point-by-point during the recitation after the exams are returned. Grading corrections on exams 1 and 2 should be submitted for review within two weeks after the answer key is reviewed. Grading corrections on the final exam should be submitted for review within the first two weeks of the next quarter.

Graded Document Retention. All graded materials will be returned. Graded materials still in my possession at the end of Winter Quarter 2016 will be shredded and recycled.

Cell Phones, Laptops, and Calculators in the Classroom. Turn off cell phones during class. Laptops are permitted during lecture and recommended during problem sessions. Cell phones, laptops, and calculators must be turned off and put away during exams.

Lecture and Testing Accomodations. If you have a disability/medical issue protected under the Americans with Disabilities Act (ADA) and Section 504 of the Rehabilitation Act and need to request accommodations, please make an appointment with the **Disability Services Program** (DSP); 303.871.2372/ 2278/ 7432; located on the 4th floor of Ruffatto Hall; 1999 E. Evans Ave. Information is also available on line at http://www.du.edu/disability/dsp.
See the *Handbook for Students with Disabilities.*

Honor Code of the University of Denver. To review your rights and responsibilities with respect to the Honor Code of the University of Denver, visit the website for the Office of Student Conduct at: www.du.edu/honorcode

I reserve the right to modify the syllabus and lecture schedule as necessary.

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Tentative Lecture Schedule

14 September	Aromatics: Special Topics aryl halides nucleophilic aromatic substitution phenols anilines transition metals and complexes fundamental reactions The Suzuki Coupling The Heck Reaction	**Chapter 18** pp. 822 – 875
16	Continued	
18	Continued	
21	Continued	
23	Continued	
25	Aldehydes and Ketones nomenclature/spectroscopy preparation reactions protection/deprotection	**Chapter 19** pp. 888 – 935
28	Continued	
30	Continued	
2 October	Continued	
5	Carboxylic Acids nomenclature/spectroscopy preparation reactions	**Chapter 20** pp. 948 – 978
7	**Exam 1** Chapters 18, 19	
9	Carboxylic Acids Continued	
12	Carboxylic Acid Derivatives physical properties nomenclature/spectroscopy preparation/reactions synthesis strategy	**Chapter 21** pp. 986 – 1037
14	Continued	
16	Continued	
19	Reactions at the α–Carbon Aldol Addition/condensation Claisen Condensation Acetoacetic/Malonic Ester Syntheses α-alkylation α–halogenation/synthetic utility conjugate addition Robinson Annulation	**Chapter 22** pp. 1047 – 1105

21	Continued	
23	Continued	
26	Continued	
28	**EXAM 2** Chapters 20, 21, 22	
30	Amines nomenclature/spectroscopy preparation and reactions diazonium salt chemistry synthesis strategy phase transfer catalysis	**Chapter 23** pp. 1116 – 1157
2 November	Continued	
4	Continued	
6	Carbohydrates Fischer projections anomeric carbon/hemiacetal formation reactions disaccharides and polysaccharides	**Chapter 24** pp. 1166 – 1213
9	Continued	
11	Aromatic Heterocycles furan/pyrrole/thiophene/pyridine stabilization basicity electrophilic aromatic substitution nucleophilic aromatic substitution	**Chapter 25** pp. 1220 – 1257
13	Continued	
16	Amino Acids, Peptides, and Proteins nomenclature stereochemistry acid-base properties solid-phase peptide synthesis	**Chapter 26** pp. 1265 – 1324
18	Continued	
20 – 23	**FINAL EXAM** Chapters 18 – 26 Date/time/location on WebCentral	