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CHMY 223.01: Organic Chemistry II

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CHMY 223: ORGANIC CHEMISTRY II (Spring)

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Office hours: MTW 1:00 – 1:50 PM; Skaggs 152

Prerequisites: Passing grade in CHMY 123, 143 or the equivalent; CHMY 221 C- or better. Organic chemistry is cumulative! Material from CHMY 221 will show up in the quizzes and exams in this course.

Course description and objectives: This course is a continuation of CHMY 221 and is an intensive survey of the analysis, structure, reactions and synthesis of the main classes of organic compounds. The course will begin by introducing analytical techniques and instrumentation in the form of separations, UV-Vis spectroscopy, IR spectroscopy, NMR spectroscopy and mass spectrometry. The course will then transition to the nomenclature, properties, reactions, mechanisms and synthesis of carbonyl compounds.

This course will prepare you for upper division science and engineering programs. You will also come away with an appreciation for the role of organic chemistry in medicine, industry, and biology. Specific objectives include:

1) Attain a molecular perspective that will enable a greater comprehension of how nature works.
2) Continue to familiarize yourself with organic chemistry and its language.
3) Acquire understanding and experience in spectroscopy to improve chemical problem solving
4) Be able to apply mechanism based solutions to synthesis

Text and study guides: Organic Chemistry, Jones & Fleming, 3rd, 4th or 5th Ed. and the study guide (ISBN 978-0-393-93500-4) are ***not required but recommended***. We follow the general outline of the textbook and it is a great resource for outside reading. The accompanying study guide gives the answers to all the problems in the book. If you already have access to another sophomore organic text then feel free to use that.

The ACS also publishes a study guide (http://shopping.na1.netsuite.com/s.nl/c.3773982/sc.11/category.191/.f) for the entire two semester sequence which *will be very useful for the final exam* as well as for the PCAT/MCAT etc.

We also recommend the Virtual Textbook of Organic Chemistry by William Reusch at Michigan State University (http://www2.chemistry.msu.edu/faculty/reusch/virttxtjml/intro1.htm). This is an outstanding resource: an online, completely free, well written and organized set of course notes and practice problems for organic chemistry.

Homework: Homework will not be assigned. However, the best way to succeed at organic chemistry is by completing as many practice problems as possible. Completing problems from the end of chapter in the Jones' text is great practice. If you can do these problems, you will do fine on the quizzes and tests. Another useful resource is the online problems available from the Virtual Online Organic Textbook website:

http://www2.chemistry.msu.edu/faculty/reusch/virttxtjml/Questions/problems/indexam.htm
http://www2.chemistry.msu.edu/faculty/reusch/virttxtjml/Questions/problems.htm

Molecular model kit: Available from the bookstore, former students, online or use your models from General Chemistry. We recommend building many of the molecules we talk about.

Online resources: We will be making extensive use of Moodle (http://umonline.umt.edu) to post lecture notes, additional material, take online quizzes, post quiz and exam keys and grades for the course. Additionally, the links below are great resources when the lecture notes and textbooks do not feel adequate.

https://www.organic-chemistry.org/
https://www.masterorganicchemistry.com/

Quizzes & Exams: On Fridays, from 4:00-4:50 pm, there will be a scheduled quiz, exam, or review session.

There will be five in-class quizzes (listed below). The quizzes will cover material since the previous exam/quiz.

In addition to the in-class quizzes, there will be five Moodle quizzes. You can complete them at any time during the semester. They must all be completed prior to the date of your final examination. The best way to do these quizzes is to attempt them alone like an exam. You can take the quizzes as many times as you like.

There will be four, in-class examinations (listed below). *No early or late exams will be given with the exception of student athletes and examinations taken at DSS.* These exceptions only exist as such exams are proctored by other faculty and staff of the University. Exams will emphasize the material given since the previous exam, but recognize that some material given earlier in the course will be required. Graded exams will be returned in class and an answer key will be posted on Moodle. If the student requests a change in grading, the exam must be left with the instructor before the student leaves the classroom on the day that the exam is returned.

A comprehensive 110 minute final exam ***covering the whole year*** will be given (the standard American Chemical Society (ACS) exam for the two semester sequence). The exam is multiple choice - 70 questions. *We recommend getting the study guide for this*.

Lowest Exam Grades/Missed examinations: The lowest examination grade will not be included in the final point total. A missed exam counts as a zero. There will be no make-up exams for the first examination missed. Make-ups are permitted for the second missed examination solely at the discretion of the instructor. No make-up will be given before the regularly scheduled quiz/examination. A make-up examination must be requested no later than the second lecture after the missed examination. The drop-lowest/make-up policy is designed for **emergencies and other infrequent, unplanned absences**. It is not designed for schedule conflicts. There will be no make-up exams for the ACS final, this exam will only be given during the assigned examination times.

Point Distribution and Grades:

In-class quizzes	5 total	Best 3 are counted	20 points each	60 points (9.1%)
Moodle quizzes	5 total	All 5 are counted	20 points each	100 points (15.1 %)
Exams	4 total	Best 3 are counted	100 points each	300 points (45.5%)
Final exam	1 total	1 is counted	200 points	200 points (30.3%)
			Total	660 points

There will be no chemistry questions answered during examinations or quizzes either by the instructor or the TA's.
The course will be graded using standard grades from A, A-, B+... D-, F. Grades will correspond to scores as follows:

Points	**Percentage**	**Grade**
614-660	(93-100%)	A
594-614	(90-93%)	A-
574-594	(87-90%)	B+
548-574	(83-87%)	B
528-548	(80-83%)	B-
508-528	(77-80%)	C+
482-508	(73-77%)	C
462-482	(70-73%)	C-
442-462	(67-70%)	D+
416-442	(63-67 %)	D
363-416	(55-63 %)	D-
≤363	(≤55%)	F

Attendance: Attendance is not mandatory but is strongly encouraged. You are responsible for all material presented in class whether you attend or not. Lecture notes will be posted online when possible following the class period.

Cheating: All students must practice academic honesty. Academic misconduct is subject to an academic penalty by the course instructor (see below) and/or a disciplinary sanction by the University. All students need to be familiar with the Student Conduct Code: http://www.umt.edu/vpesa/documents/Student%20Conduct%20Code%20PDF-%20FINAL%208-27-13.pdf

All exams and quizzes are closed book. Looking at another student's exam or quiz is cheating as is altering exams for re-grading. The penalty for cheating is an F for the course. The University may also level additional punishments.

Incomplete grades: Review the University "Incomplete" grade policy which includes the following: (a) factors beyond the student's control (and acceptable to the instructor) must make it impossible to complete the course on time, (b) the student should have been in attendance and passing through three weeks before the end of the semester, and (c) the instructor should believe that there is a reasonable probability the student can complete the course without repeating the entire course. Early travel before the final exam date is not sufficient reason for an "Incomplete."

Withdrawal/Other Change in Grading Option: After the 30th day of instruction, a grade of WF or WP will be assigned.

Turn Off Cell Phones. The use of cell phones in class, or during examinations, is not allowed.

Quiz and Exam Schedule/other notable events. The quizzes and exams will be given on Fridays at 4:00 pm

Date (Fridays)	Event
Jan. 13 (Mon)	First lecture
Jan. 17	Quiz 1
Jan. 20 (Mon)	MLK day – no class
Jan. 24	Review session
Jan. 31	Quiz 2
Feb. 7	Exam 1
Feb. 14	Review session
Feb. 17 (Mon)	Presidents day – no class
Feb. 21	Quiz 3
Feb. 28	Exam 2
Mar. 6	Review session
Mar. 13	Quiz 4
Mar. 16-20	Spring break – no class
Mar. 27	Exam 3
Apr. 3	Review session
Apr. 10	Quiz 5
Apr. 17	Exam 4
Apr. 24	Review session
May 1	Review session
May 5 (Tue)	Final exam (3:20-5:20 pm)

Additional policies:

Students with disabilities will receive reasonable modifications. Please request these from the instructor in advance and provide verification of the disability and its impact from Disability Services for Students (DSS; http://www.umt.edu/disability).

Changes to syllabus:

We reserve the right to change any or all of the syllabus at any time. It is the responsibility of the student to learn of these changes should they miss class.