1-2013

CHMY 223.01: Organic Chemistry II

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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 consists of 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 including: acid chlorides, anhydrides, aldehydes, ketones, esters and carboxylic acids as well as amines.

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


The study guide (ISBN 978-0-393-93500-4) for the textbook is not required but recommended. This guide gives the answers to all the problems in the book. The ACS also publishes a study guide for the whole two semester sequence which will be useful for the final exams in CHMY 221 and 223 as well as for the PCAT/MCAT etc.

Molecular model kit: Available from the bookstore, former students, online or use your models from General Chemistry.

Online resources: Moodle which can be accessed with your university NetID at http://umonline.umt.edu

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.

Homework: Problems will not be graded and will be posted either during lecture or on Moodle. The homework is designed to reinforce the lecture and the text material. Working the homework will prepare you for the tests and quizzes.

Cheating: Academic misconduct will not be tolerated. Punishment will be issued by the instructor and/or by the university. The Student Conduct Code will be maintained and can be reviewed at:

http://life.umt.edu/vpsa/student_conduct.php

As a reminder, notes and other external resources are not allowed during quizzes and examinations unless otherwise specified. Plagiarism will not be tolerated. Copying or looking at another student’s examination or quiz is cheating.

Quizzes/Tests: A quiz or exam will be given each Friday at 4:10pm. There will be no early or late exams given. Quizzes will be short and cover recent material. Exams will primarily cover material since the last exam and will require the full period.
**Schedule:**

<table>
<thead>
<tr>
<th>Monday</th>
<th>1/28/2013</th>
<th>Spring Semester Classes Begin</th>
</tr>
</thead>
<tbody>
<tr>
<td>Friday</td>
<td>2/1/2013</td>
<td>Quiz #1</td>
</tr>
<tr>
<td>Friday</td>
<td>2/8/2013</td>
<td>Quiz #2</td>
</tr>
<tr>
<td>Friday</td>
<td>2/15/2013</td>
<td><strong>Exam #1</strong></td>
</tr>
<tr>
<td>Monday</td>
<td>2/18/2013</td>
<td>Presidents Day – No class</td>
</tr>
<tr>
<td>Friday</td>
<td>2/22/2013</td>
<td>Quiz #3</td>
</tr>
<tr>
<td>Friday</td>
<td>3/1/2013</td>
<td>Quiz #4</td>
</tr>
<tr>
<td>Friday</td>
<td>3/8/2013</td>
<td><strong>Exam #2</strong></td>
</tr>
<tr>
<td>Friday</td>
<td>3/15/2013</td>
<td>Quiz #5</td>
</tr>
<tr>
<td>Friday</td>
<td>3/22/2013</td>
<td>Quiz #6</td>
</tr>
<tr>
<td>Friday</td>
<td>3/29/2013</td>
<td><strong>Exam #3</strong></td>
</tr>
<tr>
<td>Mon-Fri</td>
<td>4/1-5/2013</td>
<td>Spring Break – no class</td>
</tr>
<tr>
<td>Friday</td>
<td>4/12/2013</td>
<td>Quiz #7</td>
</tr>
<tr>
<td>Friday</td>
<td>4/19/2013</td>
<td>Quiz #8</td>
</tr>
<tr>
<td>Friday</td>
<td>4/26/2013</td>
<td>Quiz #9</td>
</tr>
<tr>
<td>Friday</td>
<td>5/3/2013</td>
<td><strong>Exam #4</strong></td>
</tr>
<tr>
<td>Friday</td>
<td>5/10/2013</td>
<td>Quiz #10 – last day of class</td>
</tr>
<tr>
<td>Tuesday</td>
<td>5/14/2013</td>
<td><strong>Final Exam</strong></td>
</tr>
</tbody>
</table>

Your lowest grade of two quizzes and one exam will be dropped. There will be no additional make-up exams or quizzes.

**Grading:**

<table>
<thead>
<tr>
<th>Quizzes:</th>
<th>Best 8 out of 10</th>
<th>25 points each</th>
<th>200 points (25.0%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Examinations:</td>
<td>Best 3 out of 4</td>
<td>100 points each</td>
<td>300 points (37.5%)</td>
</tr>
<tr>
<td>Final Exam:</td>
<td>Best 1 out of 1</td>
<td>300 points</td>
<td>300 points (37.5%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Total: 800 points</td>
</tr>
</tbody>
</table>

100 ≥ A ≥ 93%
93 > A- ≥ 90%
90 > B+ ≥ 87%
87 > B ≥ 83%
83 > B- ≥ 80%
80 > C+ ≥ 77%
77 > C ≥ 73%
73 > C- ≥ 70%
70 > D+ ≥ 67%
67 > D ≥ 63%
63 > D- ≥ 55%
55 > F

800 ≥ A ≥ 744
744 > A- ≥ 720
720 > B+ ≥ 696
696 > B ≥ 664
664 > B- ≥ 640
640 > C+ ≥ 616
616 > C ≥ 584
584 > C- ≥ 560
560 > D+ ≥ 536
536 > D ≥ 504
504 > D- ≥ 440
440 > F

**Additional course policies:** No cell phone use in class or during exams or quizzes.
Students with disabilities will receive reasonable modifications in this course. Please request them from me with advance notice, and be prepared to provide verification of disability and its impact from Disability Services for Students. Speak with me to discuss the details. Visit the Disability Services for Students website at http://www.umt.edu/disability.

**Caveat:** Adjustments or changes to the syllabus may be made throughout the semester. It is the responsibility of the students to learn about these changes if they miss class.