CHEM 335
Organic Chemistry II

Spring Semester 2017
1:00-1:50 PM MWF, LEEP2 G415

INSTRUCTOR: Prof. David R. Benson; 5070 Malott.
Office Hours: Mon. and Wed. 11:00 AM – Noon, Thurs. 1:30-2:30 pm, or by appointment.

LECTURE TA: Gihan Dissanayake; 2003 Malott.
Office Hours: Tues. and Thurs. Noon-1:00 pm, or by appointment.

COURSE EMAIL ACCOUNT: CHEM335@ku.edu (Please use this for all course related correspondence)

COURSE MATERIALS (See announcement on Blackboard for more information)

Required:
*WileyPLUS online instructional system. A WileyPLUS access code is included in the textbook packages sold through the bookstores. If you set up a WileyPLUS account for CHEM 330 in Fall 2016, you will have access to that account for CHEM 335.
*Clicker2 (see top of page 3 for registration information)

Optional, but highly recommended:
*Student Solutions Manual for the Klein textbook (hard copy or electronic version is included with the textbook packages sold through the KU Bookstore)
*Molecular models. Two different sets from HGS are available in the KU bookstore.

LEARNING OBJECTIVES: After completing CHEM 330 and 335, students will be able to:

- Derive structures of representative organic compounds on the basis of systematic names, and vice versa.
- Recognize the relationship between structure and physical properties of organic compounds, including synthetic and biological polymers.
- Apply understanding of acid and base strength to predict the outcomes of proton transfer reactions in organic chemistry.
- Understand the sources and consequences of stereoisomerism and conformational changes in representative organic compounds.
- Apply Hückel’s rule to predict whether a cyclic conjugated compound is aromatic.
- Predict products, mechanisms and relative rates of competing substitution and elimination reactions of alkyl halides, and related compounds.
- Predict product(s) of organic reactions involving other common functional groups, including alkenes, alkynes, alcohols, epoxides, carbonyl compounds, and aromatic rings.
- Demonstrate an understanding of the stepwise mechanisms of reactions learned in the course.
- Propose reasonable laboratory syntheses of organic compounds, utilizing combinations of reactions learned in the course.

STUDENT GROUPS: A substantial portion of every class period will be spent solving problems, with students working in groups. The tables in our classroom are oval in shape, with seating for six. You will receive an email about one week before class starts, from an organization called CATME.org, requesting some demographic information. Please complete the survey by 5 pm on Tuesday, January 17. The information you provide will be used to generate the student groups. You will subsequently receive an email indicating which table you should sit at starting on Friday, January 20 (the second day of class). Group composition will likely be changed one or more times during the semester.
BLACKBOARD: [http://courseware.ku.edu](http://courseware.ku.edu). The Blackboard site will contain all important class materials, and is also your point of access to WileyPLUS. All posted materials, including course syllabus, homework assignments, and Powerpoint slides used in lectures will be in PDF format that you can download and print. We will also use Blackboard to post announcements. If you have problems accessing the web site call the Blackboard help center at 864-0200.

You must have a KU email address or register your email address with KU to utilize the web site and to receive email messages. If you need to register your email address or obtain a KU address for the first time, go to [http://www.ku.edu/computing/services](http://www.ku.edu/computing/services).

**EXAM SCHEDULE:**

- **Hour Exam 1 (100 points):** Thursday, February 16.  8:00-10:00 PM (110 or 130 Budig)
- **Hour Exam 2 (100 points):** Thursday, March 16.  8:00-10:00 PM (110 or 130 Budig)
- **Hour Exam 3 (100 points):** Thursday, April 20.  8:00-10:00 PM (110 or 130 Budig)
- **Final Exam (150 points):** (TBD)

**EXAM CONFLICTS:** If you have a valid, documented time conflict with one of the exams (other classes, exams, etc.), you will have the opportunity to take the exam earlier in the day. You will need to let me know about valid conflicts at least two weeks in advance.

**MISSED EXAMS:** There will be no make-up exams for the hour exams. **If you miss an hour exam due to illness or other situation beyond your control, and provide acceptable documentation, your score for that exam will be replaced by your percentage score on the final exam.** If you miss an hour exam for any reason not deemed acceptable by the instructor, your score for that exam will be zero. All students must take the final exam.

**REGRADING OF EXAMS** Please carefully check your exam for errors in grading. **Any exam requiring re-grading should be brought to my attention no later than one week after the exams are made available.** SCANTRON portions of exams will not be re-graded.

**HOUR EXAM GRADE REPLACEMENT POLICY:** Your lowest hour exam score will be replaced by your percentage score on the final exam, unless that score is zero and resulted from an unacceptable absence, or unless all of your hour exam scores were higher than your percentage score on the final exam. Please do not use this policy as a rationale to forego preparing for one of the hour exams. Students who do this typically struggle to get back on track, due to the fact that Organic Chemistry is a highly cumulative subject.

**ONLINE PRE-LECTURE EXERCISES:** By 5 pm on Mondays, Wednesdays and Fridays, a 1-point exercise on material to be covered during the next class period will be made available through WileyPLUS. The questions will be based either on reading or videos assigned for that class period. The exercises must be completed prior to class. A maximum of 30 points can be accumulated via these pre-lecture exercises, which will go toward your final course grade. The purpose of these exercises is to encourage you to read ahead, and to be prepared for answering Clicker questions, and participating in in-class group problem solving sessions.

**IN-CLASS CLICKER QUESTIONS:** We will use i>Clicker2 in class on a daily basis. You will gain 1 participation point per class period by answering at least 75% of the clicker questions during that period (e.g. 3 out of 4). The total number of i>Clicker points will be capped at 30 (in other words, you have 40 lectures in which to gain the 30 points). Anybody found using two i>Clickers during class will receive zero points (total) for this part of their grade.
i>CLICKER REGISTRATION: You will need to register your i>Clicker2 through your Blackboard account. Go to the CHEM 335 page in Blackboard. Click the link at the bottom of the left panel that says “i>Clicker2 registration.” In the new window, enter your i>Clicker2 registration number, found below the bar code on the back of the clicker or found on the clicker window when the clicker is turned on. *Do NOT register through iclicker.com, as this does not allow us to match your responses with your name.* The deadline for registering your i>Clicker2 on Blackboard is Wednesday, January 18 BEFORE the beginning of class.

**WileyPLUS REGISTRATION** There is a link to WileyPLUS in the course Blackboard site. If you set up an account for CHEM 330 in Fall 2016, it will still be active. If not, once you have your access code, click on this link and you will be guided through the steps of setting up your account. If you are unable to purchase a code prior to the start of classes, you can use the WileyPLUS link noted above to set up a courtesy account. This will give you two weeks of access, and will transition to a regular account once you have an access code.

**COURSE GRADING:** Points will be distributed as follows:

<table>
<thead>
<tr>
<th>Activity</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-Lecture exercises</td>
<td>30</td>
</tr>
<tr>
<td>Clicker questions</td>
<td>30</td>
</tr>
<tr>
<td>Hour exams</td>
<td>300</td>
</tr>
<tr>
<td>Final exam</td>
<td>150</td>
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<td><strong>Total:</strong></td>
<td><strong>510</strong></td>
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**FINAL LETTER GRADES:** The following grading scale will be used, with rounding (i.e. A/A- cutoff will be 92.5%). A small curve may be applied at the end if the class average warrants.

- 93% - 100% = A
- 90% - 92% = A-
- 87% - 89% = B+
- 83% - 86% = B
- 80% - 82% = B-
- 77% - 79% = C+
- 73% - 76% = C
- 70% - 72% = C-
- 67% - 69% = D+
- 63% - 66% = D
- 60% - 62% = D-
- Below 60% = F

**PLUS SESSIONS:** PLUS Chemistry will be holding daily M-F discussion/review sessions throughout the semester. The PLUS schedule can be accessed at [http://www2.ku.edu/~plus/organicchemistry.shtml](http://www2.ku.edu/~plus/organicchemistry.shtml)

**EXAM REVIEW SESSIONS:** An optional evening review/discussion session will be held on Monday of each exam week.

**PROBLEM SOLVING:** *The better your problem solving skills, the better you will do in the course. This is why we focus so much of our effort in class on developing problem solving skills.* As you study the text, work the relevant Skillbuilder problems to be sure you understand the material, and then work as many end-of-chapter Practice Problems and Integrated Problems as you can. A list of recommended problems from each chapter in the textbook will be posted to Blackboard. We will also post a set of analogous electronic problems for each chapter via WileyPLUS. You may also wish to take advantage of Orion, adaptive learning software integrated with the Klein e-text that is available through WileyPLUS. Orion is especially useful for review prior to exams.
LECTURE RECORDING: The audio portion of each lecture, together with the associated PowerPoint slides, will be captured using a technology called Echo360, and made available the same day on the course Blackboard site. This should obviate the need to make your own recordings. If you do intend to make your own audio recordings, you must first obtain my permission. *Video recording or taking of still electronic images during lectures is prohibited.*

COMMERCIAL NOTE-TAKING: Pursuant to the University of Kansas’ *Policy on Commercial Note-Taking Ventures*, commercial note-taking is not permitted in Organic Chemistry 1 and 2 (CHEM 330 and 335). Lecture notes and course materials may be taken for personal use, for the purpose of mastering the course material, and may not be sold to any person or entity in any form. Any student engaged in or contributing to the commercial exchange of notes or course materials will be subject to discipline, including academic misconduct charges, in accordance with University policy. Please note: note-taking provided by a student volunteer for a student with a disability, as a reasonable accommodation under the ADA, is not the same as commercial note-taking and is not covered under this policy.

DISABILITY ACCOMMODATIONS: The Academic Achievement & Access Center (AAAC) coordinates accommodations and services for all KU students who are eligible. If you have a disability for which you wish to request accommodations and have not contacted the AAAC, please do so as soon as possible. Their office is located in 22 Strong Hall; their phone number is 785-864-4064 (V/TTY). Information about their services can be found at [http://disability.ku.edu](http://disability.ku.edu). Please also contact me privately in regard to your needs in this course.

ACADEMIC MISCONDUCT: Cheating, or the appearance thereof, including giving or receiving help on an exam, looking at another student’s paper while taking an exam, falsifying exam papers, using unauthorized materials, notes, crib sheets, or the equivalent, will not be tolerated and will be dealt with in accordance with University regulations (see [http://www2.ku.edu/~unigov/usrr.html#art2sect6](http://www2.ku.edu/~unigov/usrr.html#art2sect6)). The Chemistry Department reserves the right to make and keep copies of individual examination papers.

PLEASE REFRAIN FROM THE FOLLOWING ACTIVITIES DURING CLASS:

- Talking to your neighbor(s), except during problem solving sessions.
- Reading newspapers
- Using cell phones
- Using laptop computers (you would quickly find that laptops are not convenient for taking notes in this class)
- Preparing to leave while the instructor is still lecturing (unless the whistle has sounded)
- Recording lectures without prior approval from the instructor