Course Meeting Time and Location: MWF 1:30-2:20, PHSC 225

Course Prerequisite: CHEM 3053: Organic Chemistry Biological Emphasis I

Course Delivery: Tradition

Course Description:

Catalog Description: Two-semester sequence (3053 and 3153) covering the fundamental concepts of organic structure and reactions of the principal functional groups. Reaction mechanisms.

Covers the fundamental concepts of organic structure and reactions of the principal functional groups Reaction mechanisms. This course is a continuation of Organic Chemistry I focusing on aromatic compounds, aldehydes, ketones, amines, carboxylic acids and their derivatives, and bioorganic molecules. This course will emphasize the synthetic and mechanistic aspects of these compounds.

This course is the second of a two-semester sequence in organic chemistry and will continue where the first semester ended. When some selection from the vast body of subject material is considered appropriate, the guiding principle is to choose those topics prerequisite to an understanding of biochemistry and a general understanding of organic chemistry in everyday life.

Course Goals:

The overall objective is for the student to master the nomenclature, structure, synthesis, and reactions of the principal classes of organic compounds and to be able to describe organic spectroscopy techniques and interpret the spectra from these techniques. The secondary objectives of this course are to increase the students’ knowledge of the involvement of organic chemistry in everyday life, prepare the students for biochemistry and upper level organic courses, and involve the students in critical thinking exercises through course assignments.

Learning Outcomes:

At the successful completion of the course, student will be able to:

1. Apply the structure and bonding principles mastered in Organic 1 to the molecules in Organic 2
Spring 2015

2. Identify and assess strength of good leaving groups, good nucleophiles (including enolates and enols), electrophilic centers and acidic protons

3. Provide the major products of a covered reaction with correct regio- and stereochemistry

4. Provide the reagents necessary to accomplish a given one-step transformation

5. Provide the mechanism of a given transformation and relate to a reaction coordinate energy diagram, comparing competing pathway utilizing thermodynamic and kinetic principles

6. Propose a plausible multi-step synthesis for a given transformation

7. Recognize important bioorganic molecules and describe their reactivity

Specific learning outcomes for each unit are listed online at ochem.markmorvant.com and in the appendix of the syllabus. Students should become familiar with the specific learning outcomes for each unit to prepare for the quizzes, discussions, exams, and Final Exam.

Texts and Materials:


Other: Saplinglearning.com access for Online Assignments

Teaching Philosophy:

Learning is a process. To learn, a student must engage in the process. I design my courses to facilitate the learning process, but a student will only learn if they engage in course through reading, video, discussions, interactions, and assessments.

Learning is social. The feedback from the instructor and fellow students is important in mastery of the content and concepts within the course. Collaboration is strongly encouraged in this course during the learning process. Of course, collaboration on graded assignments is a violation of academic integrity unless the assignment is specifically noted as a group assignment.

Learning takes time and effort. You are building new connections in your brain when learning. This cannot be done quickly or without effort. It is important to take time to study, practice, and reflect in this course.

Expectations:

You can expect me to:

- Challenge you to think about and understand the material in this course.
- Encourage you to learn the material in this course and become a life long learner.
- Be available for office hours and return e-mails in a timely fashion, within 24 hours.
- Return written assignments in a week or less, quizzes and exams in 72 hours or less.
- Engage you in the lecture and around campus.

I expect you to:

- Attend class and be engaged.
- Study at least 2 hours outside of class for every hour of class (Nationwide Standard)
Spring 2015

- Keep up with reading and end of chapter problems.
- Accept responsibility for your learning.

Learning Activities and Assessment

Exams:

The Exams will be 100-point fifty-minute long exams and will be given at the beginning of class. The exams will be a mixture of multiple choice and free response questions (short answer, essay, mechanism…). The instructor also reserves the right to make different versions of an exam with different questions that cover the same course material and concepts.

The final exam will be worth 100 points and will be a comprehensive exam over the whole Organic I and Organic II sequence. It will also be the ACS Organic Chemistry Exam. This exam is a national standardized exam that has been developed by the Examination Institute of the American Chemical Society. As such, it covers all topics that are considered essential for a student who has completed a year in Organic Chemistry. If necessary, the grades on the exam will be normalized to the class performance and not the national standard. The final exam will be a two-hour exam and will be multiple-choice.

It is very important that each student show up on time during Exam days. Every effort will be made by the instructor to distribute the exam materials in a timely fashion.

It is very important to write your name on your assignments and to bubble in your name on the scantron. If you do not write your name on your exam(assignments) or bubble in your full name (first and last name) on your exam(quiz) scantron, then it is your responsibility to follow through on identifying your works as soon as possible. Unidentified assignments will be treated as a zero.

Quizzes:

The first quiz will be a Organic I Reactions Review Quiz. It will consist of problems covering the reactions and mechanisms in CHEM 3053. This material is an essential foundation to the material in Organic II and mastery of this material is important to a students’ success in Organic II. Students are encouraged to review the material from CHEM 3053 and should give their best effort on the quiz.

The other Quizzes will consist of three to five free response questions and will be worth twenty points. The questions on the quizzes will come from or be closely related to the practice problems from the text, the action center practice problems, or lecture “try this” problems. The quizzes will be given during the first ten minutes of class. Every attempt will be made to grade quizzes in a timely fashion, but it will often be several days before the quiz grades are posted on D2L. Quizzes will be returned to the students during class or can be picked up during the TA office hours.

Once the quiz has been graded, the grade for the quiz will be posted on the D2L site. Students have one week to inform the Instructor that either the quiz was graded incorrectly or that the graded posted is incorrectly. Students must clearly write their names on their quizzes for the quiz to be graded.

Online Assignments:

The Online Assignments will consist of questions similar to the practice problems in the text. The online assignments are through saplinglearning.com (instructions for registering on saplinglearning.com will be sent by e-mail). Each assignment will have a different number of questions that need to be answered. Each assignment will be worth 10 points. Students have up to 5 attempts per question on the assignments, but there is a 5% grade reduction for attempt on a question. It is recommended that students work through the practice problems in the text before attempting online assignments. It is highly recommended that you review the section of the text related to a question in the online assignment after you miss the first attempt on that question.

The Online Assignments are important to learning the material in the course. The instant feedback of the system can have a positive impact on learning and retention. Each student should work
Spring 2015

individually on the online assignments and give an earnest effort. Working with other students or receiving assistance on the Online Assignments is considered Academic Misconduct.

Reading and Problems:

The reading and practice problem that will be assigned in class or on the website should be completed before the next class meeting. Failure to stay current on reading and practice problem assignments will greatly affect your ability to keep up during lecture and, therefore, will have an indirect affect on your grade in this course.

Grade Adjustments:

There is no curve in this course. The instructor reserves the right to make linear adjustments to exam grades in cases were an exam question was found to be in error or unreasonably difficult. Linear adjustments will not be made to increase the average on an Exam.

The grade you earn in the course shall be the grade that you receive in the course. There will be no letter grade increases for any circumstance. The instructor will round all averages to two significant figures (69.5 will round to 70 and 69.4 will round to 69) to determine the student's letter grade in the course (70 = C, 69 = D).

Final Grade:
The course grade will be determined by the average of the quizzes, online assignments, exams and Final Exam. The final letter grading for the course will be as follows: A ≥ 90%, B = 89-80%, C = 79-70%, D = 69-60%, F = <60%. The instructor will round all averages to two significant figures (69.5 will round to 70 and 69.4 will round to 69) to determine the student's letter grade in the course (70 = C, 69 = D).

There is no curve in this course. The instructor reserves the right to make linear adjustments to quiz and final exam grades in cases were a quiz or exam question was found to be in error or unreasonably difficult. Linear adjustments will not be made to increase the average on a quiz or Final Exam.

COURSE GRADE

<table>
<thead>
<tr>
<th></th>
<th>Points Possible</th>
</tr>
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<tbody>
<tr>
<td>Exams</td>
<td>4@100</td>
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<tr>
<td>Final Exam</td>
<td>1@200</td>
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<tr>
<td>Online Assignments (saplinglearning.com)</td>
<td>14@10</td>
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<tr>
<td>Quizzes</td>
<td>5@20</td>
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<tr>
<td>Total Points Possible</td>
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Additional Support for Learning
The University of Oklahoma provides additional support to assist in your success in this class. The University College provides free tutoring through the Action Tutoring, [www.ou.edu/univcoll/action_tutoring.html](http://www.ou.edu/univcoll/action_tutoring.html). The Writing Center, [www.ou.edu/writingcenter/](http://www.ou.edu/writingcenter/), provides assistance on writing and consultations to improve writing skills.

Course Policies

Make-up Policy
Although the Instructor does not expect a student to miss an assignment, if a student does miss an assignment for a legitimate, verifiable reason, the Instructor will work with the student to provide an opportunity for make-up work.
Absences
Attending every lecture is highly recommended and expected. Not attending class will have an indirect negative effect on your grade. If low attendance to lectures becomes problematic, the instructor reserves the right to use attendance as extra-credit. There will not be assigned seating in the lecture, but students are expected to sit next to their study group partners to facilitate communication during problem solving sessions in class.

Civility
All students are expected to follow proper classroom behavior and treat other students and the instructor with respect. If the instructor deems a student’s actions or behavior disruptive to the class, the students will be asked to leave the class for that day.

Emergency Contact
In case of family or medical emergencies, students can leave a message on the instructor’s voice mail (405-325-9011) or by e-mail (mmorvant@ou.edu). Once the emergency has passed, the student can meet with the instructor to discuss what material/assignments the student has missed and what steps would beneficial to aid the student in continued success in the course.

Changes in the Syllabus
As the course develops, it might be desirable/necessary to make appropriate changes in aspects of this syllabus. The Instructor reserves the right to make changes if desirable or necessary

University Policies
In this section, include the mandatory University policies.

Academic Integrity:
All students are expected to conform to college-level standards of ethics, academic integrity, and academic honesty. By enrolling in this course, you agree to be bound by the Academic Misconduct Code published in The University of Oklahoma Student Code (www.ou.edu/studentcode/OUStudentCode.pdf). For further clarification please see: www.ou.edu/provost/integrity-rights/.

All members of the community recognize the necessity of being honest with themselves and with others. Cheating in class, plagiarizing, lying and employing other modes of deceit diminish the integrity of the educational experience. None of these should be used as a strategy to obtain a false sense of success. The need for honest relations among all members of the community is essential.

Religious Observance:
It is the policy of the University to excuse the absences of students that result from religious observances and to reschedule examinations and additional required classwork that may fall on religious holidays, without penalty.

Reasonable Accommodation Policy
Students requiring academic accommodation should contact the Disability Resource Center for assistance at (405) 325-3852 or TDD: (405) 325-4173. For more information please see the Disability Resource Center website http://www.ou.edu/drc/home.html
Any student in this course who has a disability that may prevent him or her from fully demonstrating his or her abilities should contact me personally as soon as possible so we can discuss accommodations necessary to ensure full participation and facilitate your educational opportunities.

QUIZ SCHEDULE
Quiz 1: Friday, January 23
Quiz 2: Friday, February 20
Quiz 3: Friday, March 27
Quiz 4: Friday, April 17
Quiz 5: Friday, May 1

EXAM SCHEDULE
Exam 1: Friday, February 6
Exam 2: Friday, March 6
Exam 3: Friday, April 3
Exam 4: Friday, April 24
Final Exam: Thursday, May 7, 8:00-10:00 am

LECTURE SCHEDULE (Tentative)
The schedule below is a preliminary outline of the semester. It is your responsibility to keep up with changes to this schedule. The chapters listed are based on Klein Organic Chemistry 1st edition and matches Klein Organic Chemistry 2nd Edition.

<table>
<thead>
<tr>
<th>WEEK OF</th>
<th>TOPIC</th>
<th>Textbook</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mon. 1/12</td>
<td>Course Intro./Review</td>
<td>Ch. 14</td>
</tr>
<tr>
<td>Tues. 1/19</td>
<td>Ethers, Epoxides, Thiols and Sulfides</td>
<td>Ch. 14</td>
</tr>
<tr>
<td>Mon. 1/26</td>
<td>Conjugated Pi Systems and Pericyclic Reactions</td>
<td>Ch. 17</td>
</tr>
<tr>
<td>Mon. 2/2</td>
<td>Aromatic Compounds</td>
<td>Ch. 18</td>
</tr>
<tr>
<td>Mon. 2/9</td>
<td>Aromatic Substitution Reactions</td>
<td>Ch. 19</td>
</tr>
<tr>
<td>Mon. 2/16</td>
<td>Aromatic Substitution Reactions</td>
<td>Ch. 19</td>
</tr>
<tr>
<td>Mon. 2/23</td>
<td>Aldehydes and Ketones</td>
<td>Ch. 20</td>
</tr>
<tr>
<td>Mon. 3/2</td>
<td>Carboxylic Acids and their Derivatives</td>
<td>Ch. 21</td>
</tr>
<tr>
<td>Mon. 3/9</td>
<td>Carboxylic Acids and their Derivatives</td>
<td>Ch. 21</td>
</tr>
<tr>
<td>Mon. 3/16</td>
<td>Spring Break</td>
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</tr>
<tr>
<td>Mon. 3/23</td>
<td>Alpha Carbon Chemistry: Enol and Enolates</td>
<td>Ch. 22</td>
</tr>
<tr>
<td>Mon. 3/30</td>
<td>Alpha Carbon Chemistry: Enol and Enolates</td>
<td>Ch. 22</td>
</tr>
<tr>
<td>Mon. 4/6</td>
<td>Amines</td>
<td>Ch. 23</td>
</tr>
<tr>
<td>Mon. 4/13</td>
<td>Carbohydrates</td>
<td>Ch. 24</td>
</tr>
<tr>
<td>Mon. 4/20</td>
<td>Amino Acids, Peptides, and Proteins</td>
<td>Ch. 25</td>
</tr>
<tr>
<td>Mon. 4/27</td>
<td>Lipids</td>
<td>Ch. 26</td>
</tr>
</tbody>
</table>