Organic Chemistry I  CHEM-2423 - 51330
INET-BASED HYBRID course

Instructor: Dr. Jozef Borvak

Fall 2019

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Office: A521
Office Hours: MW:  12:30 - 03:00, p.m.
                TR:  By appointment

Phone: 214-860-2333
Required Textbook and Other Course Supplies

For Lecture: Organic Chemistry” by David Klein (3rd Ed.), John Wiley & Sons,
ISBN:9780471756149  For Lab:

Molecular Model Set for Organic Chemistry (refer to “Amazon.com” to buy it, or Prentice
Hall Molecular Model Set For Organic Chemistry by Pearson), or Darling Molecular Model Kit:
KIT #3 ISBN 978-09648837-4-1-Molecular Visions Organic kit at www.darlingmodels.com
Scientific (non-graphing !) calculator, Scantron form # 882-ES.

Other Recommended Material
Experimental Organic Chemistry - A Balanced Approach: Macroscale & Microscale by
W. H. Freeman and Company

For Online Homework: SaplingLearning Account (Read the Special Instructions for
Selfenrollment in SaplingLearning in the Additional Class Information section); Scientific
(nongraphing !) calculator, Scantron form # 882-ES.

Course Prerequisite
Chemistry 1412 (General Chemistry-II)

Course Objective
This course is for science and science-related majors. It introduces the fundamental classes of
organic compounds, and begins the study of aliphatic and aromatic compounds, including
nomenclature, structure and isomerism, stereochemistry, types of reactions, common mechanisms
and syntheses.
This course is designed for the students who would like to understand organic chemistry based
upon their general chemistry knowledge. This whole text will be taught effectively in two
semesters.

Student Learning Outcome:
Upon successful completion of this courses, the student will have acquired the following
knowledge and skills:
• Interpret the fundamental principles of organic chemistry.
• Apply general chemistry skills to start and understand organic chemistry.
• Apply scientific principles to specific circumstances or problems.
• Classify organic compounds scientifically with nomenclature.
• Construct molecular conformation and configuration from critical thinking.
• Analyze organic reactions from structure.
• Apply safety rules in the practice of laboratory investigations.
• Demonstrate correct laboratory separation techniques.
• Demonstrate proper protocols, common scientific equipment such as Melting Point
  Measurement apparatus, FT-IR and UV-Vis spectrometers, HPLC, Electrophoresis, etc.
• Demonstrate conformation and configuration with modeling kit.
• Design and analyze a scientific experiment and recommend improvements

Grading Policy
Lab Average 30 %
Exams’ Average (three 90-minutes exams, plus 1 Online SaplingLearning Homework; Drop the lowest one of these four grades) 50 %
Final Exam (comprehensive) 20 %

Three 90-minutes exams will be given. These will cover the reading, lecture material, and assigned problems. The final exam will be comprehensive. Grades will be assigned according to the following scale: *

<table>
<thead>
<tr>
<th>Total Numerical Grade</th>
<th>Letter Grade</th>
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<tbody>
<tr>
<td>90-100 %</td>
<td>A</td>
</tr>
<tr>
<td>80-89 %</td>
<td>B</td>
</tr>
<tr>
<td>70-79 %</td>
<td>C</td>
</tr>
<tr>
<td>60-69 %</td>
<td>D</td>
</tr>
<tr>
<td>Below 60</td>
<td>F</td>
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</table>

*The instructor reserves the right to use a more flexible scale.

Testing policy
No make-up exams will be given, and any missed exams will result in a grade of zero. However, the SaplingLearning Homework score will replace the lowest 90 minute exam score if it is to the student’s benefit. An additional bonus is: if the student accomplishes all chapter homeworaks to more than 60% (each chapter!) in the designated test-taking time-frame, he/she will earn 5 bonus points to the exam covering those chapters.

Examination Needs
You must bring the following to each examination:
Scientific Calculator (You may not use a graphing calculator or a calculator capable of storing alpha-numeric/textual material.), No. 2 pencils with eraser, Scantron 882-E (available at the ECC Bookstore).
Students are not allowed to have access to cell phones or digital pagers during any exam.

Institutional Policies

Institutional Policies relating to this course can be accessed from the following link
www.elcentrocollege.edu/syllabipolicies
**Withdrawing policy**
If a student is unable to complete a course in which she/he is enrolled, it is the student’s responsibility to withdraw from the course by the appropriate date (November 14th for the Fall 2019).

**Hazardous Materials**
Lab exercises are usually connected with relevant lecture chapters. CHEM 2423 will utilize the traditional and small-scale chemistry approach to chemistry instruction, if possible, which is considerably less hazardous than a standard traditional chemistry laboratory. We will still use chemicals, but much less of them. During our experiments, we may also use substances deemed to be “hazardous” by the state of Texas or by some Federal Authorities. Before using any hazardous substances, students will be given appropriate information and warning by the instructor regarding the proper handling of such substances. Safety precautions will be given and proper behavior in case of an accident will be carefully explained. Protective attire and goggles will be strictly required during all laboratory operations. It is the students’ responsibility to use the appropriate protective gear and to handle substances as instructed. Performing unauthorized experiments, or a failure to follow all Safety Rules will result in dismissal from the laboratory session or the chemistry class, or both.

Material Safety Data Sheets (MSDS, or SDS) are available in the Chemistry Laboratory. They describe in detail many of the chemical properties of each hazardous material and suggest what actions to take to avoid unhealthy exposures. The MSDS are located in Lab A721.

Please feel free to discuss with your instructor any questions you may have related to any substances used in this course.

**NO Freelance Experiments are allowed!**

**Time Commitment and Strategies for Succeeding in Chemistry 2423**

1. Attend *every* lecture. A very strong correlation exists between attendance and success in Chemistry 2423. Because the topics covered in this course build on each other, missing even one class can mean the difference between success and failure in the course.
2. Prior to class, read the chapter which will be covered in lecture.
3. Review your lecture notes after each class. Correct obvious errors and note topics which require further study or clarification.
4. Work *all* of the suggested homework problems. Do *not* look in the solutions manual until you have given your *best* effort to solve the problem on your own.
5. Spend the necessary amount of time studying chemistry. The rule of thumb for succeeding in Chemistry is three hours of study for every hour of lecture. This means that at a *minimum* you should plan to study Chemistry nine hours each week.
6. Don’t procrastinate. These concepts take time to sink in, and you may have to practice these exercises over a period of many days in order to master the necessary skills.
7. Form a study group. This is your first avenue for getting help. Be able to communicate with each other on short notice, not just before class.
8. The Science Learning Center at ECC provides efficient help and a variety of materials to assist Chemistry students’ learning needs.
<table>
<thead>
<tr>
<th>Week #</th>
<th>Week of</th>
<th>Lecture Material</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>08/26</td>
<td>Complete the Course and eCampus Orientation, read the course Syllabus and ask any questions to clarify uncertainties. Participate in the Discussion Board “Introduce Yourself” thread. Ch. 1, A Review of General Chemistry: Electrons, Bonds, and Molecular Properties</td>
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<tr>
<td>2</td>
<td>09/02</td>
<td>09/02 (M) Labor Day Holiday Ch. 2, Molecular Representations Ch. 3, Acids and Bases</td>
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<tr>
<td>3</td>
<td>09/09</td>
<td>Finish Ch. 3, Acids and Bases Ch. 4, Alkanes and Cycloalkanes</td>
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<tr>
<td>4</td>
<td>09/16</td>
<td>Finish Ch. 4, Alkanes and Cycloalkanes Review for Exam 1 <strong>Exam 1 over Chs. 1, 2, 3, and 4</strong> Must be taken from 09/20 – 09/24 (Fri, Sat, Mon, or Tue) Ch. 5, Stereoisomerism</td>
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<tr>
<td>5</td>
<td>09/23</td>
<td>Finish Ch. 5, Stereoisomerism Ch. 6, Chemical Reactivity and Mechanisms</td>
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<tr>
<td>6</td>
<td>09/30</td>
<td>Finish Ch. 6, Chemical Reactivity and Mechanisms</td>
</tr>
<tr>
<td>7</td>
<td>10/07</td>
<td>Ch. 7, Substitution Reactions</td>
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<td>8</td>
<td>10/14</td>
<td>Finish Ch. 7, Substitution Reactions Ch. 8, Alkenes: Structure and Preparation via Elimination Reactions</td>
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<tr>
<td>9</td>
<td>10/21</td>
<td>Finish Ch. 8, Alkenes: Structure and Preparation via Elimination Reactions Review for Exam 2 <strong>Exam 2 over Chapters 5, 6, and 7</strong> Must be taken from 10/25 – 10/29 (Fri, Sat, Mon, or Tue) Ch. 9, Addition Reactions of Alkenes</td>
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### Tentative Lecture and Exam Schedule* (cont.)

<table>
<thead>
<tr>
<th>Week #</th>
<th>Week of</th>
<th>Lecture Material</th>
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| 10     | 10/28   | Finish Ch. 9, **Addition Reactions of Alkenes**  
|        |         | Ch. 10, **Alkynes** |
| 11     | 11/04   | Finish Ch. 10, **Alkynes**  
|        |         | Review for Exam 3 |
| 12     | 11/11   | Continue Review for Exam 3  
|        |         | **Exam 3 over Chapters 8, 9, and 10**  
|        |         | Must be taken from 11/15 – 11/19 (Fri, Sat, Mon, or Tue)  
|        |         | **November 15th is the due date for ASSESSMENT**  
|        |         | **November 14th(R) - Last Day to Withdraw** |
| 13     | 11/18   | Ch. 11, **Radical Reactions** |
| 14     | 11/25   | Finish Ch. 11, **Radical Reactions**  
|        |         | Review for the Comprehensive Final Exam (Ch. 1 – 11)  
|        |         | **Thanksgiving Holiday 11/28 (R) – 12/01 (Su)** |
| 15     | 12/02   | Continue Review for the Comprehensive Final Exam |
| 16     | 12/09   | **Comprehensive Final Exam (Ch. 1 – 11)**  
|        |         | Must be taken at ECC’s Testing Ctr. on 12/09 (M) – 12/11 (W)  
|        |         | No make-up or late Final Exams will be administered !!! |

*The college and instructor of this course reserve the right to make any changes deemed necessary in favor of the students with prior notification of the class.*
Additional Class Information

Saplinglearning Registration and Enrollment Information  CHEM-2423-51330  
2019FA:

1. Go to http://www.saplinglearning.com
2. If you already have a SaplingLearning account, log in, then skip to step 5.
3. If you have a Facebook account, you can use it to quickly create a SaplingLearning account.  
   Click "create account" located under the username box, then click "Login with Facebook".  
   The form will auto-fill with information from your Facebook account (you may need to log  
   into Facebook in the popup window first). Choose a password and fill in the remaining  
   information, accept the site policy agreement, and click "Create my new account". You can  
   then skip to step 5.
4. Otherwise, click "create account" located under the username box. Supply the requested  
   information and click "Create my new account". Check your email (and spam inbox) for a  
   message from Sapling Learning and click on the link provided in that email to confirm your  
   account.
5. Find your course in the expandable list (sorted by subject, term, and instructor) and click the  
   title link.
6. Select your payment options and follow the remaining instructions.

Once you have registered and enrolled, you can log in at any time to complete or review your  
Homework Assignments.

During sign up - and throughout the term - if you have any technical problems or grading issues,  
send an email to support@saplinglearning.com<mailto:support@saplinglearning.com>  
explaining the issue. The Sapling support team is almost always more able (and more quick) to  
resolve issues than your instructor.