Course Syllabus

COURSE TITLE
Organic Chemistry 1 Laboratory

COURSE NUMBER
CHM 2210L

PREREQUISITES / CO-REQUISITE
General Chemistry 1 & 2 / CHM 2210

CREDIT HOURS
1.0

CONTACT HOURS
45

CLASS MEETING TIMES
T 3:30-6:15 in D-108

CLASS METHOD
Traditional laboratory course (class meets in person)

INSTRUCTOR
Dr. Mark Frahn
mark.frahn@fkcc.edu
Office in C 222
Office # 305-809-3536

OFFICE HOURS
Posted on Office Door

COURSE DESCRIPTION
Experiments will be designed to reinforce the lecture topics in 2210 and familiarize students with laboratory equipment and techniques. Fractional distillations at atmospheric and reduced pressure, melting point experiments, colligative properties, model building and internet activities will be used. Additionally, the publisher’s web site will be available as supplemental material.

COURSE OBJECTIVES
Upon completion of the course, the student will be able to demonstrate knowledge—by successfully answering questions on an objective examination of the following topics:

1. Apply the IUPAC system of nomenclature to the naming of different functional groups of organic molecules.
2. Be able to write the formulae of many organic molecules and complete and balance specific chemical reactions.
3. Use distillation as a technique to purify and separate reaction mixtures.
4. Use the colligative properties of organic compounds to determine their molar masses and help identify them.

REQUIRED TEXTBOOK
None

REQUIRED MATERIALS
The student is required to bring a scientific calculator to the laboratory. In addition, the student is required to log into D2L and print out all materials associated with the laboratory experiment scheduled for that day. All other materials will be provided by the instructor.
Please note that the last day to withdraw from this course and receive a 100% refund is August 28, 2014. Also, the last day to withdraw with a grade of W or change registration status to audit is November 6, 2014.

**PROPOSED COURSE SCHEDULE**

*Please note: The course schedule is subject to change to meet the needs of the course and its students. If you miss a class, it is YOUR responsibility to stay current*

<table>
<thead>
<tr>
<th>Date</th>
<th>Experiments</th>
<th>Assignments</th>
</tr>
</thead>
<tbody>
<tr>
<td>8/26</td>
<td>Orientation to the course and laboratory</td>
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<tr>
<td>9/2</td>
<td>Experiment 1: Simple Characterization Techniques</td>
<td>Completed laboratory notebook due 9/9</td>
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<tr>
<td>9/9</td>
<td>Experiment 2: Distillation at Atmospheric Pressure</td>
<td>Completed laboratory notebook due 9/16</td>
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<tr>
<td>9/16</td>
<td>Experiment 3: Distillation at Reduced Pressure</td>
<td>Completed laboratory notebook due 9/23</td>
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<tr>
<td>9/23</td>
<td>Experiment 4: The Use of Molecular Models for Nomenclature and Predictive Stability</td>
<td>Completed laboratory notebook due 9/30</td>
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<tr>
<td>9/30</td>
<td>Experiment 5: Fermentation of Sugars (part 1)</td>
<td>Completed laboratory notebook due 10/7</td>
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<tr>
<td>10/7</td>
<td>Experiment 5: Fermentation of Sugars (part 2)</td>
<td>Completed laboratory notebook due 10/14</td>
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<tr>
<td>10/14</td>
<td>Experiment 6: Separation of Organic Chemicals Based Upon Molecular Functionalities</td>
<td>Completed laboratory notebook due 10/21</td>
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<tr>
<td>10/21</td>
<td>Experiment 7: Synthesis and Characterization of Aspirin (part 1)</td>
<td>Completed laboratory notebook due 10/28</td>
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<tr>
<td>10/28</td>
<td>Experiment 7: Synthesis and Characterization of Aspirin (part 2)</td>
<td>Completed laboratory notebook due 11/4</td>
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<tr>
<td>11/4</td>
<td>Experiment 8: Spectroscopic Characterization Part 1 / Mass Spectrometry</td>
<td>Completed laboratory notebook due 11/18</td>
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<td>11/11</td>
<td>Veteran’s Day (college closed)</td>
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<tr>
<td>11/18</td>
<td>Experiment 9: Spectroscopic Characterization Part 2 / Infrared and Ultraviolet Spectroscopy</td>
<td>Completed laboratory notebook due 12/2</td>
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<tr>
<td>11/25</td>
<td>Thanksgiving (college closed)</td>
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<tr>
<td>12/2</td>
<td>Experiment 10: Spectroscopic Characterization Part 3 / Nuclear Magnetic Resonance Spectroscopy</td>
<td>Completed laboratory notebook due 12/9</td>
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<td>12/9</td>
<td>Final Week (no scheduled laboratory)</td>
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**METHOD OF STUDENT EVALUATION**

A total of 10 laboratory assignments will be offered, each of which are equally weighted and contribute to your grade (percentage wise). Unexcused non-attendance automatically results in a grade of 0 points for the corresponding laboratory.

The total points obtained by the student relative to the total possible points will be used to determine the student’s % grade. Letter grades will be assigned according to the following levels of performance: A (100-90%), B (89-80%), C (79-70%), D (69-60%) and a grade of F below 59%.

**ATTENDANCE**

An instructor may withdraw a student from courses for excessive absences and/or non-attendance up to the 70% point in the semester.
ACADEMIC HONESTY

Any cheating or plagiarism will result in disciplinary action to be determined by the instructor based on the severity and nature of the offense. It is the student’s responsibility to review the College’s policy on Academic Honesty.

SPECIAL NEEDS

- If you have any special needs or requirements pertaining to this course, please discuss them with the instructor early in the term.

- If you have special needs as addressed by the Americans with Disabilities Act (ADA) and need assistance, please notify the Office for Students with Disabilities at 305-809-3292 via email at: karla.malsheimer@fkcc.edu or the course instructor immediately.

- Reasonable efforts will be made to accommodate your special needs.

| Students are expected to familiarize themselves with FKCC Policies, which can be found in the current Student Handbook |