CHEM 2263: LAB: Organic Chemistry I  
School of Natural Sciences  
Fairleigh Dickinson University, T-H Campus  

COURSE SYLLABI

General Information:

Fall 2008  
Day/Time: T or Th / 12:50PM - 4:30PM  
Room: DH 5504  
Prerequisite: Successful completion of General Chemistry I & II and the corresponding labs  
Co requisite: Organic Chemistry I (CHEM 2261)  
Instructor: Dr. I Kumar, Office DH 4408  
Phone: 201-692-2340; e-mail: ikumar@fdu.edu  
Additional requirement: Full-length lab coat

Course Description:
A laboratory course, taken concurrently with Organic Chemistry I (CHEM 2261), which illustrates important principles of structure and reactivity, synthesis and analysis of organic compounds.

Objective:
Students who successfully complete this course will be able to perform basic organic substitution, elimination, and addition reactions; purify the product; and analyze results using classical organic laboratory techniques. They will be able to maintain an accurate record of their experiments in a notebook and write an accurate lab report including a critical analysis of the results.

Format:
- Experiments are generally completed during a single laboratory period.
- A laboratory notebook must be used to record procedure and results. Notebook guidelines are attached.
- Lab reports must be turned in at the beginning of the next laboratory session. Lab report guidelines are attached. **Lab reports may NOT be submitted by e-mail.**
- Students will work in pairs, however, each student will be expected to keep their own notebook and write their own lab report. It must be written in your own words – not a copy of your lab partner’s and not copied from the lab manual. Note that some experiments may require that the product be labeled and turned in for analysis.
- You are expected to attend every laboratory session. Attendance will be taken each class. There will be NO MAKEUP's FOR MISSED EXPERIMENTS OR EXAMS. Consideration will be given only in the case of a documented medical emergency.  
  NOTE 1: A student cannot get a passing grade for this class if he/she misses two or more laboratory sessions.  
  NOTE 2: There will be no "switching" of laboratory sessions.  
  NOTE 3: No visitors allowed in the laboratory.  
- There will be a breakage fee for any broken glassware.
- Students must strictly abide by the safety rules. Flagrant &/or repeat violators will not be allowed to continue the lab and will receive a zero for that experiment.
- Important Dates…
CHEM 2263: Organic Chemistry Laboratory I
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Grading Policy:

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<tr>
<td>Lab Reports</td>
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<tr>
<td>Notebook</td>
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<td>Exam 1</td>
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<td>Exam 2 (cumulative)</td>
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Course Outline:

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<th>Lab #</th>
<th>Topic</th>
<th>Pages</th>
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<td>1</td>
<td>Introduction</td>
<td>1 - 5</td>
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<td>Check in</td>
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<td>Lab safety, lab notebooks</td>
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<td>2</td>
<td>Melting Points and Mixed Melting Points</td>
<td>12-17</td>
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<td>3</td>
<td>Extraction</td>
<td>18 – 22</td>
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<td>4</td>
<td>Crystallization</td>
<td>23 – 26</td>
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<td>5</td>
<td>Simple Distillation and Refractive Index</td>
<td>27 – 34</td>
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<td>6</td>
<td>Fractional Distillation and GC</td>
<td>35 – 43</td>
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<td>7</td>
<td>Steam Distillation and Optical Rotation</td>
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<td>8</td>
<td>Column Chromatography</td>
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<td>EXAM 1</td>
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<td>9</td>
<td>Thin Layer Chromatography (TLC)</td>
<td>55 – 58</td>
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<td>10</td>
<td>Structure and Solubility</td>
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<td>11</td>
<td>Structure and Nomenclature</td>
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<td>12</td>
<td>S_n1 Synthesis</td>
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<td>13</td>
<td>Elimination Reaction</td>
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<td>14</td>
<td>EXAM 2</td>
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<td>Check – out</td>
<td>Cumulative</td>
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Please Note:

- **Academic Integrity:** Cheating, in any form, will not be tolerated. Students caught cheating will receive a zero for that particular assignment. Details regarding FDU’s Academic Integrity policy are readily available on-line at [http://fduinfo.com/studentlife/handbook/](http://fduinfo.com/studentlife/handbook/)

- **Electronic Devices:** All electronic devices including cell phones, MP3 players, etc. should be turned off during lecture and exam periods.
Notebook Guidelines:
Notebooks must be hardcover with bound pages
Number each page
Start with a Table of Contents listing each experiment along with the appropriate page number.
For each experiment
- Complete notebook entries while doing the experiment
- Write in INK. Do not use “white out” or tear out pages. Draw lines through any errors or entire pages. Do not leave any blank spaces to fill in later.
- Start with the title & date
- Chemical equation (where appropriate)
- Procedure: Step by step summary list of critical points, numbered, no complete sentences. Recorded in your notebook as you do the lab.
  Record what YOU did, not what the manual says you should do. Following your procedure, someone should be able to duplicate EXACTLY what YOU did.
- Raw data: Recorded as obtained. Include exact weights, volumes, instrument readings, etc.
- Sign and date each experiment upon completion
- Co-signed weekly by instructor.

Lab Report Guidelines:
Typing is preferred. Legible is required.
Due the next laboratory period following completion of the lab
  1 week late: 10% penalty
  1 - 2 weeks late: 15% penalty
  >2 weeks late: no credit
No lab reports accepted after week 15
Each report must follow the following format…
- Title of experiment
- Name and date
- Lab Partner(s) Name(s)
- Abstract
  Briefly summarize the experiment including the objective and methods used. It must be in your own words; do not plagiarize the lab manual. Include a chemical equation for all reactions completed. Consider this an “executive summary”. Mention only the key points.
- Results and Discussion
  Present all data clearly in tabular form and include any graphs. Show all calculations. For long, repetitive calculations include at least one representative calculation. Results draw from these data should also be presented in tabular form. DO NOT give a procedure here. It should go in the Experimental Section (see below).
- Conclusions
  Draw your own conclusions. Did you accomplish the objectives? Include a critical analysis of your results (What was supposed to happen. What happened? Was this expected? Why or why not? What went wrong?)
- Experimental Section
  Attach a photocopy of your lab notebook showing your procedure, your raw data, signatures, and date.
- Questions
  Include answers to the questions from your lab instructor or from lab manual.
The resulting number grades will be converted to letter grades using the following scale:

90 or more points..........................A
87-89 points...............................A-
83-86 points...............................B+
80-82 points...............................B
77-79 points...............................B-
73-76 points...............................C+
70-72 points...............................C
67-69 points...............................C-
60-66 points................................D

Below 60 points