Microscale Organic Chemistry Laboratory
General Information

Instructor: W. Chain  chain@hawaii.edu
Bilger 205B  808-956-5795

Office hours by appointment.

Course Objectives: • To gain practical experience in manipulating organic compounds
                  • To learn how to purify, separate, prepare, and identify organic compounds
                    using microscale laboratory techniques.

Textbooks: • Chemistry 272 Organic Laboratory Procedures. Lab Manual and Supplement
                  for Students, by William Chain, Thomas Hemscheidt, and Philip Williams. Spring

Safety: • Required: 1. Safety goggles or glasses with side shields
                  2. Closed toe shoes that cover the entire top of your foot
                  3. Long pants that are not skin tight
                  4. Long hair must be tied back
                  No one will be allowed to work without this protection. No exceptions. Your cooperation is requested.
                  • While not required, students may wear additional protective clothing such as lab coats, rubber aprons, and heavy boots at their own discretion.
                  • No talking on cell phones or listening to music while working in the lab. Turn your phone off for the duration of lab. You will not receive a grade for talking on the phone!
                  • Do NOT use your cell phone as your calculator. Do NOT have your cell phone at your bench – this is the fastest way to transfer chemicals from your bench/hands to your face.

Notebooks: • Students must provide two bound (no loose-leaf), hard cover laboratory notebooks.

Grading Scheme: Lab notebooks/Handout questions (due every week): 50%
                Quizzes (every week): 40%
                TA evaluation (organization, preparation, technique): 10%
                It is our custom to return work within 1 week of submission

General Policies: • Quizzes will be given at the beginning of the lab. Students who are late will not be able to make up quizzes. Any missed quiz will be considered a zero.
                  • Missed labs cannot be made up. If you must miss a lab, you must discuss the problem with your TA in advance. There are no unexcused absences – a score of zero will be assigned for the quiz and lab report. If you miss more than two labs for any reason, you are encouraged to withdraw from the course. There will be no ‘incomplete’ grades. Students should inform the course instructor of any prearranged professional trips (conferences or varsity sports).
                  • Safety is of paramount importance! The smallest distraction can lead to an accident. If you are observed in the teaching laboratory with a cell phone or walking around listening to headphones, you WILL be removed from the lab. If you are observed without the necessary protective clothing, you WILL be removed from the lab.
• All students are expected to conduct himself/herself with honesty and consideration of fellow students.
• **Any student caught cheating will automatically receive an F in the course and have their case referred to the appropriate review board for further disciplinary action.**

**Code of Conduct:**  
Academic honesty policies can be found at the following website:  
[http://www.studentaffairs.manoa.hawaii.edu/policies/conduct_code/](http://www.studentaffairs.manoa.hawaii.edu/policies/conduct_code/)  
*Any case of academic dishonesty will result in an automatic grade of ‘F’ in the course and your case will be referred to the Student Conduct Administrator. This document serves as your only warning, and there will be no second chances and no exceptions to this policy.*

**Disabilities:**  
The University of Hawaii is an equal opportunity/affirmative action institution, dedicated to teaching all students and reaching all learners. It is our commitment to make our lectures and classrooms accessible to all students. If you have, or think you might have, a disability and have not voluntarily disclosed its nature and the support you need, you are invited to contact the UH KOKUA Program ([http://www.hawaii.edu/kokua/](http://www.hawaii.edu/kokua/) or (808) 956-7511), or talk with the instructor in order to get any accommodation you might need to take the course. This information will be kept confidential. Please do this as early in the course as possible.

**First lab meeting:**  
We will begin lab the week of January 20 with check-in and a safety lecture. Read pages 1-23 and the appendices in your lab manual, and the ACS Safety Guidelines on Laulima.
Chem 272L Microscale Organic Chemistry Laboratory
Lab Schedule Spring 2014

Read the assigned material and do all necessary calculations before arriving for lab.
No labs are scheduled on the following days: Monday, Jan. 20, Monday, Feb. 17, Friday, Apr. 18

<table>
<thead>
<tr>
<th>Week</th>
<th>Date</th>
<th>Experiment</th>
<th>Reading</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1/20*</td>
<td>Check-in and Safety Lecture</td>
<td>1-23, App</td>
</tr>
<tr>
<td>2</td>
<td>1/27</td>
<td>Distillation</td>
<td>Lab 1</td>
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<tr>
<td>3</td>
<td>2/3</td>
<td>Distillation Unknown and Melting Points</td>
<td>Lab 2</td>
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<tr>
<td>4</td>
<td>2/10</td>
<td>Crystallization</td>
<td>Lab 3</td>
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<tr>
<td>5</td>
<td>2/17**</td>
<td>Thin Layer Chromatography</td>
<td>Lab 4</td>
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<tr>
<td>6</td>
<td>2/24</td>
<td>Steam Distillation</td>
<td>Lab 5</td>
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<tr>
<td>7</td>
<td>3/3</td>
<td>Extraction</td>
<td>Lab 6</td>
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<tr>
<td>8</td>
<td>3/10</td>
<td>Column Chromatography</td>
<td>Lab 7</td>
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<tr>
<td>9</td>
<td>3/5</td>
<td>S_n2 Reaction and the Synthesis of Butyl Acetate</td>
<td>Lab 8</td>
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<tr>
<td>10</td>
<td>3/17</td>
<td>Electrophilic Addition and the E2 Elimination Reaction</td>
<td>Lab 9</td>
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<tr>
<td>11</td>
<td>3/31</td>
<td>Oxidation of Cyclohexanol (Elimination Reaction)</td>
<td>Lab 10</td>
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<td>12</td>
<td>4/7</td>
<td>Transfer Hydrogenation of Olive Oil</td>
<td>Lab 11</td>
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<td>13</td>
<td>4/14***</td>
<td>TWR - Check-out</td>
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<tr>
<td>14</td>
<td>4/21†</td>
<td>MF - Check-out</td>
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*No Monday lab – MLK Day
**No Monday lab – Presidents’ day
***No Friday lab – Good Friday
†Students who have missed experiments due to holidays will combine the transfer hydrogenation lab and check-out.