

CHEM 272L – ORGANIC CHEMISTRY I LABS – SYLLABUS

Instructor: Dr. Jakub Hylv
Contact: hylv@hawaii.edu; (808) 956-7665
Office: Bilger Addition 404

Course objectives: An introduction to common laboratory techniques used for the purification, characterization, preparation and purity assessment of organic chemicals.

Lab manual: The Chemistry Department has put together a manual for CHEM 272L that you must purchase in the UHM Bookstore. This is a less costly alternative to classical texts for Organic Chemistry laboratories.

Experiment schedule: A schedule for the semester's experiments for the individual sections is attached.

Grading: Each section will be graded separately and appropriate curves determined at the end of the semester. The following tentative scale will be used:

| Overall [%] | Grade Earned |
|-------------|--------------|
| ≥ 85.0 | A |
| 75.0-84.9 | B |
| 65.0-74.9 | C |
| 55.0-64.9 | D |
| ≤ 54.9% | F |

Be aware that you need a grade of "C, not C-" in CHEM 272 to move on to CHEM 273 and in CHEM 272L to move on to CHEM 273L.

For each lab, a total of 100 points can be earned. For the pre-lab quiz a maximum of 30 points are available. The conduct of the experiment and the lab report are worth 60 points. You will be graded on the correctness, completeness, clarity and the demonstration of understanding of the material displayed in your lab reports. In addition, your TA will award up to 10 TA points. You will be graded on your preparedness and independence in conducting the lab experiment, your understanding of the procedure, the level of cleanliness of your workspace at the end of the lab, your adherence to lab safety rules.

Laboratory Safety: During the first section meeting, each lab section will receive verbal instructions from the instructor on laboratory safety, the physical outlay of the laboratory and the operation of safety equipment. Attendance for this instruction is MANDATORY. Most of the same information is provided in writing in the beginning pages of the laboratory manual.

It is essential that you are wearing eye protection at all times during the lab, that you are wearing closed-toed shoes, at a minimum, long pants or skirts covering your knees, and shirts covering your shoulders. Long hair needs to be tied back while in the lab. Neither contact lenses nor

vision correction glasses are an appropriate substitute for safety glasses. Proper safety glasses with side shields can be purchased in the bookstore or at home improvement stores. We do not provide "loaners". So, if you forget your glasses, we will be sending you to the bookstore to purchase a new pair. No exceptions!

It is the student's responsibility to follow these instructions. We will be paying particular attention to your wearing of personal protective devices, specifically eye protection, shoes, pants and shirts. The safety rules are there to ensure your protection from your own and others' actions. Failure to follow safety procedures or sporting a bad attitude about them will get you dismissed from the lab. It is a precondition for being allowed to take part in a lab that you are wearing the appropriate clothing. You will not be allowed to work in the lab without closed-toed shoes, knee-length pants (or skirts), eye protection and shirt covering your shoulders. You will be sent away and will receive a score of zero for the lab.

Changing of sections during the semester: We will not be meeting during the first week of classes. This should give you sufficient time to work out your schedule. I will not accommodate requests for switching laboratory sections after the first week. No exceptions.

Absences: Should you be absent from more than two experiments, for ANY reason (excusable or inexcusable), you will not be receiving a passing course grade. There will be no make-up labs under ANY circumstance. EXCUSED ABSENCES require a doctor's note, court's notice or similar, and need to be SUBMITTED WITHIN ONE WEEK since the absence. I decide what I accept as a valid excuse for an absence and my decisions are final. Examples of what I will not accept: "Car /moped broke down", "I had to drive my mom/dad, little brother, girlfriend (etc) to the doctor", "I had an interview for a job".

The following link is to a Google form, which you need to fill out to request an excused absence. The same link can be found in the "Resources" folder on the Lulima CHEM 272L group site (you need to be signed in your UH gmail account as well).

https://docs.google.com/forms/d/e/1FAIpQLSeo5Fq_BzLCF6NabhrBKIFbmJainNogrGel1SWUCFc1NuN6mw/viewform?usp=pp_url

Lab organization: You will be working in teams of two, but you will be individually responsible for preparing lab reports (more below) and for producing supporting information such as spectra.

You will be assigned a fume hood at the beginning of the first lab and you'll be working at that hood for the entire semester. The hood should be clean when you step up to it at the beginning of the lab period and you'll be leaving it equally clean when you are done with your experiment. The TA has to approve of the level of cleanliness of your hood and the bench besides it before you are allowed to leave the lab.

Each student will be given a kit of glassware at the beginning of each lab section. The kits will be bearing your name so that you get the same kit every lab. It is therefore in your interest to fill

your kit with clean glassware only. The TA will inspect your kit for cleanliness before you are allowed to turn it in at the end of the semester.

Lab reports: Lab reports are due within a week of completing the experimental work. Your TA will specify the location where the lab reports are to be submitted. Late lab reports will receive a penalty of 15%/ day late (or part thereof). Lab reports shall be hand written in a bound Composition style book. You should have two books so that one can be in the hand of the TA for grading and one book to write your prelab and lab report in for the week's experiment.

Your lab manual contains instructions on how to prepare a lab report. The purpose of the lab report is to teach you to be observant and to learn how to communicate your observations to others. It also gives you an opportunity to write about the scientific background and to have your writing reviewed by someone knowledgeable so that you can catch early any misconceptions you may have. For these reasons, it is essential that you write the lab report in your own words. Do not paraphrase the lab manual or something you found on the web (see also the section on Academic Dishonesty below)!

Academic Dishonesty: Submission of work not your own as work of your own constitutes academic dishonesty. This can take the form of copying somebody else's lab report, copying verbatim or only slightly paraphrased content from sources such as books or the internet without indicating the source. If you get caught in academic dishonesty, you should count on receiving a grade of "F" for the course and you will be reported to judicial affairs for further sanctions.

Any student who feels s/he may need an accommodation based on the impact of a disability is invited to contact me privately. I would be happy to work with you, and the KOKUA Program to ensure reasonable accommodations in my course.

Laboratory Schedule CHEM 272L for Spring 2019

| dates | M | T | W | R | F |
|-------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| 01/07-01/11 | No Lab | No Lab | No Lab | No Lab | No Lab |
| 01/14-01/18 | Safety/Melt. Pnts | Safety | Safety | Safety | Safety |
| 01/21-01/25 | MLK Day* | Melting Points | Melting Points | Melting Points | Melting Points |
| 01/28-02/01 | Distillation | Distillation | Distillation | Distillation | Distillation |
| 02/04-02/08 | Crystallization | Crystallization | Crystallization | Crystallization | Crystallization |
| 02/11-02/15 | Thin Layer Chrom. | Thin Layer Chrom. | Thin Layer Chrom. | Thin Layer Chrom. | Thin Layer Chrom. |
| 02/18-02/22 | Presidents Day* | Steam Distillation | Steam Distillation | Steam Distillation | Steam Distillation |
| 02/25-03/01 | Steam Distillation | Extraction | Extraction | Extraction | Extraction |
| 03/04-03/08 | Extraction | Column Chrom | Column Chrom | Column Chrom | Column Chrom |
| 03/11-03/15 | Column Chrom | SN2 Reaction | SN2 Reaction | SN2 Reaction | SN2 Reaction |
| 03/18-03/22 | Spring Recess* | Spring Recess* | Spring Recess* | Spring Recess* | Spring Recess* |
| 03/25-03/29 | SN2 Reaction | Kuhio Day* | Oxidation | Oxidation | Oxidation |
| 04/01-04/05 | Oxidation | Oxidation | Brom/Elimination | Brom/Elimination | Brom/Elimination |
| 04/08-04/12 | Brom/Elimination | Brom/Elimination | Transfer Hydrogen. | Transfer Hydrogen. | Transfer Hydrogen. |
| 04/15-04/19 | Transfer Hydrogen. | Transfer Hydrogen. | No Lab | No Lab | Good Friday* |
| 04/22-04/26 | No Lab | No Lab | No Lab | No Lab | No Lab |
| 04/29-05/03 | No Lab | No Lab | No Lab | No Lab | - |

* = Non-instructional Days

Note: Order of labs in this schedule does not necessarily match the order in which the labs are printed in the manual.