

CHEM 242B, ORGANIC CHEMISTRY LABORATORY

SPRING 2013
PROF. TOMIKAZU SASAKI

INSTRUCTOR: Tomikazu Sasaki
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OFFICE HOURS: 11:00am – noon, Monday & Tuesday

REQUIRED TEXT: "Introduction of Organic Laboratory Technique, A Microscale Approach"
Pavia, Lampman, Kriz & Engle (PKLE). 5th Edition

Course Discussion Board: <https://catalyst.uw.edu/gopost/board/sasaki/32418/>

REQUIRED Chem242 Manual: available online
https://catalyst.uw.edu/workspace_preview/chemsp13/36775/254322

WEEKLY LECTURE: Monday: 3:30 - 4:20pm, SMI 120

EXAMS: Exam #1, 4/29 (Mon), SMI 120
Exam #2, 6/3 (Mon), SMI 120

There will be no rescheduled or make-up exams.

LABORATORY SECTIONS:

BA	T/Th	9:30am - 12:20pm	CHB112	Flowers
BB	T/Th	9:30am - 12:20pm	CHB128	Oja
BC	T/Th	12:30- 3:20pm	CHB112	Pinkerton
BD	T/Th	12:30- 3:20pm	CHB128	Chang
BE	T/Th	3:30 - 6:20pm	CHB112	Rawal
BF	T/Th	3:30 - 6:20pm	CHB128	Smith
BG	T/Th	3:30 - 6:20pm	CHB127	Sulas
BH	T/Th	6:30 - 9:20pm	CHB112	Stanzel
BI	T/Th	6:30 - 9:20pm	CHB128	Raynolds
BJ	T/Th	6:30 - 9:20pm	CHB127	Rak

LABORATORY SAFETY: All students in the laboratory are required by state law to wear departmental approved safety goggles and labcoats at all times. Departmental policy states "undergraduates not wearing goggles will be dismissed from the laboratory immediately. A second infraction will result in dismissal for the remainder of the quarter. **Safety goggles and lab coats** are available from the University Bookstore or the Chemistry Stockroom (BAG 271).

Students who have contact lenses are strongly urged to wear regular glasses instead during the lab. Fumes from many organic solvents can dissolve in tear film and cause major eye damage if they get under contacts.

No shorts or sandals are allowed in lab.

SAFETY QUIZZES (10 pts): There will be a list of safety quizzes on the Catalyst website that will cover the basics of safety from pages 3-9 in the Lab Manual. Complete the quizzes and the additional questions below by April 6.

<https://catalyst.uw.edu/webq/survey/sasaki/196864>

Additional safety question (5pts): During your first lab period, draw a large detailed map on the inside cover of your laboratory notebook (or the reverse side of this page if you do not yet have a notebook) indicating the location of the following items:

<i>Your station</i>	<i>Safety showers</i>	<i>Fire extinguishers</i>	<i>Red emergency telephone</i>
<i>All doors</i>	<i>Exit path(s)</i>	<i>Eye washes</i>	<i>Fume hoods</i>

LAB NOTEBOOKS: Purchase a bound notebook (Hayden-McNeil) with numbered pages and carbonless duplicate pages at the University Bookstore. Spiral notebooks are not acceptable. When performing an experiment write down the procedure as you do it and note all observations. Also include your final results (bp, yields, etc). A good lab notebook is one which would allow another person to replicate the experiment using only your notebook. Also, the Lab Notebooks guidelines are listed in the manual.

GRADING: The grades will be curved with the average set to a 2.9 +/- 0.2 (departmental guideline). Each lab section will be graded separately. The point breakdown is shown below.

<i>Lab Repots</i>	<i>Points</i>
Safety quiz	15
Three-step synthesis	50
Prelab	10
Biodiesel lab	40
Viscosity race	2
Prelab	10
Chiral reduction lab	40
Prelab	10
2 unknowns at 70 pts ea.	140
Prelab	10
Spectroscopy unknown	40
<i>Exam</i>	
Exam #1	100
Exam#2	100
<i>Misc.</i>	
TA evaluation	30
Notebook (10 pts x 2)	20

POLICIES:

1. You may only do lab work during your designated time period. You are not allowed to be in the lab before or after the designated lab section. Your TA will check you in or out every lab section. **There will be no make-up labs.**

2. **Lab Tardy Policy** (applied only to three lab periods, Experiment 2 (Day 1) and Experiment 3 (Day 2 & 3)): In Experiments 2 and 3, you will work with a partner. If you are late, you would make your lab partner wait for you unnecessarily. As such, if you are more than 10 minutes late for lab, 10 pts will be deducted from your lab report score.

3. **Missed Midterm Exam or Lab:** Students who miss a midterm exam or a lab (Experiments 2 & 3 only) must present documentation of a recognized *emergency*, and need to discuss the matter with Dr. Paul Miller in Bagley 303. Examples of recognized emergency include: illness, death or serious illness in the immediate family and, provided previous notification is given, observance of regularly scheduled religious obligations and attendance at academic conferences or field trips, or participation in university-sponsored activities such as debating contests or athletic competition. Dr. Miller will manage the excuses and the documentation, and will notify the instructor regarding the students' status.

- midterm exam,

(a) If your absence meets the above criteria, the weight of the other exam will be increased proportionately in calculating the course grade.

(b) If your absence does NOT meet the above criteria, you will be given a zero for the exam(s).

Athletes or other student-related travel may have the option to use a proctor for the exam; please check with Dr. Miller if you are an athlete, and are scheduled to miss an exam. Athletes should turn in a schedule to Dr. Miller at the beginning of the quarter if there is any chance they will miss exams or labs due to athletic events.

- lab (Experiments 2 & 3 only),

(a) If your absence meets the above criteria, you are allowed to use the data generated by your partner without penalty.

(b) If your absence does NOT meet the above criteria, 50% of the possible points for that lab will be deducted from your score.

4. **Exam Regrading:** Graded exams will be returned to you about 1-3 days after the exam. You should pick up your exam from your TA. Please consult the answer key provided on the bulletin board so that the accuracy of the exam grading can be evaluated. **If you feel that a grading error(s) has been made** (please don't ask me whether or not you should submit your exam for a re-

grade), please describe the nature of the error(s) on a single piece of paper and staple it to your exam. Then give it to your TA and we will discuss the problem within 1 week after the exam. You can then pick up your revised exam from your TA. You are responsible for turning in your exam for review within 7 days from the time of the exam (i.e. exams must be turn in by 1 pm on Wed. following an exam taken on the previous Wed. from 12-1 pm). Exams turned in after this deadline will not be accepted. To minimize meaningless re-grades, only re-grades that result in a change of at least 5 points will be accepted. All the graded exams will be scanned prior to being returned to you and any exams submitted for re-grade that have been altered in any way will be given a zero.

The *signed* form below must be attached to your exam when you submit it for a regrade.

Please regrade question(s) _____
Please check addition on page(s) _____ question(s) _____
I understand that my exam may have been photocopied before it was returned to me. I certify that I have not altered anything on my exam after it was returned. I understand that if I am found to have altered anything on my exam, I will receive a zero on the complete exam.
Name _____ UW ID # _____
Signature Date _____

COURSE SCHEDULE:

- Week 1 April 1 Lecture (three step synthesis overview)
Lab 1 Check-in & Lab safety
Lab 2 Three-step Synthesis Day #1 (PLKE #32B)
- Week 2 April 8 Lecture (Basic MS, IR & NMR)
Lab 1 Three-step Synthesis Day#2 (Manual)
Lab 2 Three-step Synthesis Day#3 (Manual)
- Week 3 April 15 Lecture (Biodiesel overview, 1H-NMR equivalent protons and integrals)
Lab 1 Three-step Synthesis Day#4 (Finish up)
Lab 2 *Biodiesel Day#1 (Reaction, submission of GC-MS & NMR samples)*
- Week 4 April 22 Lecture (Chiral reduction overview, functional group identification)
Lab 1 Biodiesel Day#2 (Computer Work Up (GC-MS & NMR), IR and Viscosity Races)
Chiral reduction Day#1 (Just stirring)
Three-step synthesis lab report due at the beginning of the lab
Lab 2 *Chiral reduction Day#2 (GC-MS sample submission)*
- Week 5 **April 29 Exam #1**
Lab 1 *Chiral reduction Day#3 (NMR sample submission)*
Biodiesel lab report due at the beginning of the lab
Lab 2 Chemical tests of known compounds (PLKE #52A & 52D)
Chiral reduction Computer Day
- Week 6 May 6 Lecture (functional group identification)

Lab 1 Known & Unknown Tests (Bunsen Burner Day: Beilstein, Ignition, & Boiling Points) ***Only day of the quarter to have bunsen burners out.***

Ciral reduction lab report due at the beginning of the lab

Week 7 Lab 2 Unknowns 1 & 2
May 13 Lecture (Unknowns strategies)
Lab 1 Unknowns 1 & 2

Week 8 Lab 2 Unknowns 1 & 2
May 20 Lecture (1H-NMR)
Lab 1 Unknowns 1 & 2
Lab 2 Unknowns 2
Start Unknown 3 (spectroscopy unknown)
Unknown 1 report due at the beginning of the lab

Week 9 *May 27 Holiday*
Lab 1 no lab
Lab 2 Unknowns 2 & 3

Week 10 **June 3 Exam#2**
Lab 1 Unknowns 2 & 3
Lab 2 Lab Check-out
Unknowns 2 & 3 report due, turn in lab notebook

* *Italics: Lab Tardy Policy is applied to these lab periods.*

If you would like to request academic accommodations due to a disability, please contact Disabled Student Services, 448 Schmitz, 543-8924 (V/TDD). If you have a letter from Disabled Student Services indicating you have a disability that requires academic accommodations, please present the letter to me so that we can discuss the accommodations you might need for class