

Chemistry 1211K Laboratory Spring 2015

Instructor: Dr. Tracy A. Kerr
Office: 215 Courtland North
Office Hours: **M** 12:00 pm - 3:00 pm, **W** 9:00 am – 10:30 am
Email: tkerr@gsu.edu
Semester Midpoint: Tuesday October 13th, 2015– MUST withdraw from both lecture and lab.

*******You need to show your Panther Card to enter NSC*******

Dr. Kerr's Lab Sections: Tuesday : 10:00 am – 10:45 am, NSC 218
10:45 pm - 1:00 pm , NSC234
1st Lab : September 1st (CRN 80173,85978)

Tuesday: 3:00 pm – 3:45 pm, NSC 218
3:45 pm - 6:00 pm , NSC 234
1st Lab - September 1st (CRN: 80174,80176-Dr. LeCroix)

Lab Manual: **CHEM 1211K Lab Manual : The Identification of an Organic Acid**
(supplied by lab coordinator in the first lab period)

Laboratory Materials Required:

- 1) One stitched and bound notebook; ***no spiral notebooks, no tear-out pages***
- 2) Safety goggles or glasses. May purchase from lab coordinator.
- 3) A scientific non-programmable calculator (NO GRAPHING CALCULATORS)

➔ **Attendance:** Students are expected to attend **EVERY** pre-lab lecture and lab session.

Safety: Safety glass or goggles *must be worn at all times, no exceptions.*

No open-toe shoes (flip-flops, sandals, crocks, etc.), no exceptions.

No food, drink, gum, etc. , no exceptions.

Failure to follow safety rules will result in expulsion from the lab with no make-up allowed.

Comments on Lab and some Lab Rules:

1. This part of the course involves an individualized project-type lab.
2. Lab notebooks should be kept up to date. **Bound notebook required.** Leave one page blank at the front of the notebook for a Table of Contents. All pages must be numbered and dated. All data must be recorded in this notebook **in ink. Do not use pencil. Do not record data on loose sheets of paper.** Do not tear out pages, or use white-out. If you make a mistake, simply cross-out the incorrect data and write an explanation.
3. After check-in students are responsible for the content in their drawers. The cost of any lost or broken items will be added to the student's account.

4. Cell phones are not permitted in the lab. If you have them on your person, you **MUST** turn them to silent. A surprise ring can startle a student and create a safety hazard. If you need to use your phone, please do so in the hallway **AFTER** you have cleaned your hands.
5. Before lab each week, students are responsible to read the lab and then write in their lab notebooks about each experiment beforehand (refer to schedule). **A summary in your own words (numbered/bullet points) about the experiment including purpose, materials, and experimental methods must be written in the notebook before beginning experiment.** TAs will check the notebooks before entering lab, and students without written notes in their notebook will not be allowed to enter. During lab, students are expected to record data in **ink** into the notebook. Data must **NEVER** be recorded in pencil/or on other books/papers, and later transferred to the notebook. At the end of lab, notebooks must be checked and signed by TAs at the conclusion of each lab session. **NO SIGNATURE, NO CREDIT.**
6. **Students who miss lab lecture are not allowed to conduct experiments for the lab session.**
7. Safety glasses are required at all times in the lab.
8. Dress appropriately. Students will not be allowed in the lab without appropriate clothing.
 - a. No open-toe shoes (flip-flops, sandals, crocs, etc.)
 - b. No shorts/ short skirts
 - c. No spaghetti straps (all shirts need sleeves).
9. No food and drinks allowed in the lab. **THIS INCLUDES CHEWING GUM!**
10. Failure to follow safety rules will result in **expulsion from the lab with no make-up allowed.**
11. Cleaning up is part of the lab session. Students should stop working and begin cleaning up their work area, including their hood space, 25 minutes before the conclusion of the lab session.
12. When cleaning glassware: Step 1: Pour out chemicals from glassware into appropriate waste bin. **Step 2: Rinse the glassware and pour the rinse into appropriate waste bin, NOT THE SINK.** Failure to obey this rule will result in lab technique point deduction.
13. There are no make-up labs. If you miss a lab, you will be a lab behind until you can catch up.
14. To pass the lab, students **MUST** take the lab final and turn in the lab report. Grading point distribution is on page 4 in lab manual. Lab report is due on Week 12 Lab at the beginning of lab lecture. It is important that students work on the lab report as experiments progress during the semester. Lab report instructions/samples are on page 5 in the manual.
15. **Department Student Integrity Policy is on Pages 4 and 5 of lab manual.**

Graded final exams can be viewed at the instructor's office but will not be returned to the students.

No grades will be given via e-mail or by phone.

If you want your lab book returned after the semester, you must notify me by email.

Lab Schedule

Tuesdays	Week	
September 1 st	Lab 1	Safety, Check In
September 8 th	Lab 2	Safety Exam, Density Experiment
September 15 th	Lab 3	Recrystallization Experiment
September 22 nd	Lab 4	Unknown Acid Melting Point Prepare 0.1M NaOH
September 29 th	Lab 5	HCl titration with NaOH to test student's precision
October 6 th	Lab 6	KHP titration with NaOH to determine NaOH concentration
October 13 th	Lab 7	Unknown Acid titration with NaOH to determine equivalent weight
October 20 th	Lab 8 QUIZ 1	Begin pK _a titrations
October 27 th	Lab 9 QUIZ 2	pK _a titrations/ Na fusion
November 3 rd	Lab 10 QUIZ 3	pK _a titrations/ Na fusion
November 10 th	Lab 11	pK _a titrations/ Na fusion
November 17 th	Lab 12	Final Exam * Final Report Due * Submit Lab Notebook * Check Out
December 1 st	Lab 13	Check Out must be completed

Lab 1: Check-in, Safety Orientation.

Lab 2: Take Safety Exam and do Density Experiment. Unknown: Density Unknown

Lab 3: Recrystallization Experiment. Unknown: Recrystallization Unknown

Lab 4: **Begin Term Project: Identification of Unknown Organic Acid.** Unknown: Organic Acid

- I. Check Melting Point of Organic Acid Unknown
- II. Make 0.1M NaOH from concentrated stock solution

Lab 5: **Continue Term Project.** HCl titration.

Lab 6: **Continue Term Project.** KHP standardization titration.

Lab 7: **Continue Term Project.** Organic Acid titration to determine **equivalent weight of unknown.** Computer Search to be done at home. Print 3 copies of computer search results. Turn one in to instructor, attach one in notebook, and one will go into your final lab report.

Lab 8: **QUIZ 1. Continue Term Project.** pK_a trial 1 and prepare test tubes for sodium fusion (if conducting sodium fusion – depending on computer search results).

Lab 9: **QUIZ 2. Continue Term Project.** Continue pK_a titrations and Na fusion (if applicable)

Lab 10: **QUIZ 3. Continue Term Project.** Continue pK_a titrations and Na fusion (if applicable)

Labs 11 **Finish** pK_a titrations and Na fusion (if applicable)

Lab 12 **Final Exam. Final Lab report Due. Lab notebook Due. Check Out.**

If you miss a lab, you will complete that lab before continuing. If you miss a quiz, you will receive a zero for that quiz unless you have a doctor's note. Please understand that you need a note from a physician, not a receptionist's note saying that you were seeing a doctor.

If you are caught cheating, you will receive a zero for that lab experiment.

Synopsis:

- 1- You cannot be late for pre-lab. If you miss the pre-lab you may not enter the lab.**
- 2- Keep your lab notebook up to date.**
- 3- If you miss a quiz with an excusable absence, you will need a verifiable note.**
- 4- No make-up quizzes or final exam will be given. If a student misses a quiz or the final exam it will count as a zero.**
- 5- Leave room for a table of contents in your notebook.**
- 6- For each and every lab, read the manual and enter the purpose and basic procedure that you are going to follow that day. Do not worry if the procedures are slightly changed during prelab.**
- 7- Always write down your unknown numbers in your lab book.**
- 8- Always finish each lab with completing your calculations IN YOUR LAB BOOK. You can do this during the lab or at home.**
- 9- Always include graphs or prints outs in your lab book.**
- 10-DO NOT recopy your lab book to hand in at the end of the semester.**

Learn how to properly read a buret. You will be using it a lot this semester and you can lose many points if you do not record the volumes accurately. ALWAYS use two decimal places with a buret (eg. 10.23 mL).

Always record every decimal a balance gives you. If you are using the analytical balances in the middle room always record 4 decimal places, even if they are zeros. (eg. 1.2345 g)

****IF YOU WITHDRAW FROM THE COURSE, YOU MUST CHECK OUT. YOU WILL BE CHARGED ~\$35 ON TOP OF ANYTHING YOU OWE IF YOU DO NOT****