

CHEM 1211K Lab Syllabus (Spring 2020)

Instructor: Dr. Bin Xu
Contact Information: Langdale Hall 834, bxu6@gsu.edu, 404-413-5567
Office Hours: Thursday/Friday, 9:45 - 10:45 AM (other time by appointment).

Lab Meeting: **Thursday Session: 11:00 AM – 2:00 PM**
(Prelab lecture: 11:00 – 11:45 AM, PSC 362;
Lab: 11:55 AM – 2:00 PM, PSC 360/356)
Friday Session: 11:00 AM – 2:00 PM
(Prelab lecture: 11:00 – 11:45 AM, PSC 362;
Lab: 11:55 AM – 2:00 PM, PSC 360/356)

Lab Manual: The Identification of an Organic Acid, 4th Ed.
(distributed on the first lab/check-in, the week of Jan.20)

Withdrawal Date: **Tuesday, Mar. 3rd.** Student MUST withdraw from both lecture and lab.

Web Site: <https://chemistry.gsu.edu/undergraduate/resources/current-syllabi/>

Laboratory Materials Required:

- 1) A stitched and bound notebook; *no spiral notebooks, no tear-out pages*
- 2) Safety goggles or glasses. You may purchase from the lab coordinator.

Attendance: Students are expected to attend each pre-lab lecture and lab session.

Grading: Lab Manual page 14. The laboratory constitutes 25% of the course grade. Except for the density measurement and the recrystallization experiment, the rest of the lab activities are designed as an INDIVIDUAL PROJECT that will continue throughout the semester.

Lab Notebook: Lab Manual page 12 - 13. You must have a *bound and stitched lab notebook*. Reserve three pages 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.** Your lab notebook should be kept up to date and it will be checked from time to time, and signed by TA or lab instructor at the end of each lab period.

Data, Quizzes, Examinations and Reports (based on the total score scheme of 400 pts):

- Three pre-lab quizzes are given, 10 pts each.
- A final comprehensive lab exam (90 pts) is given on **Apr. 23rd (Thursday Session)** and **Apr. 24th (Friday Session)**.
- All quizzes and the final exam are close-book.
- Data sheets are due as specified in the schedule below.
- A formal comprehensive final report is due on **Apr. 23rd (Thursday Session)** and **Apr. 24th (Friday Session)**.
- Lab notebook is due on **Apr. 23rd (Thursday Session)** and **Apr. 24th (Friday Session)**.

Failure to follow safety rules will result in expulsion from the lab with no make-up labs allowed. Please refer to the lab manual (page 7 – 10) for more details.

Safety: Safety glasses or goggles *must be worn at all times*. No exceptions.

Appropriate lab attire is mandatory (No shorts, sandals, open-toed shoes, and crocs, etc.). No exceptions.

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

Lab Check-out Policy: Lab drawer checkout due by Apr. 23 (Thursday Session) and Apr. 24 (Friday Session). **Each student needs to perform the lab check-out in person and return the drawer key by the last lab meeting. A charge of \$20 will be put on the student's account if the student does not show up for the lab check-out by the last lab meeting. A student will also be charged of \$15 for key replacement fee if the drawer key is not returned by the last lab meeting. The above policy also applies to students who withdraw this class before the end of the semester.**

Cleaning up is an important part of the lab session. Students should stop working and begin cleaning up their work area no later than 15 minutes before the conclusion of the lab session. **Students must exit the lab by 2:00 PM.**

Tentative Lab Schedule: Thursday Session (Friday Session)

Lab 1	01/23 (01/24)	Introduction, safety video, and lab check-in.
Lab 2	01/30 (01/31)	Safety quiz; Density determination of an unknown solution (Unknown #1)
Lab 3	02/06 (02/07)	Recrystallization of an unknown acid (Unknown #2)
Lab 4	02/13 (02/14)	Yield% of recrystallization (Unknown #2); Melting Point and solubility of the unknown organic acid (Unknown #3)
Lab 5	02/20 (02/21)	Standardization of NaOH solution by titration with KHP
Lab 6	02/27 (02/28)	Validation of NaOH standardization: Titration of HCl by NaOH
Lab 7	03/05 (03/06)	Equivalent Weight determination of the unknown organic acid (Unknown #3)
Lab 8	03/12 (03/13)	Computer Search (Unknown #3)
Lab 9	03/26 (03/27)	pKa Determination (Unknown #3)
Lab 10	04/02 (04/03)	pKa Determination Continued (Unknown #3)
Lab 11	04/09 (04/10)	Finish pKa experiment; Sodium Fusion Test if needed (Unknown #3)
Lab 12	04/16 (04/17)	Catchup lab
Lab 13	04/23 (04/24)	Final exam, final report and notebook due and lab Check-out.

Students must turn in a report sheet on density (unknown #1) and have the instructor record their data for recrystallization (unknown #2), melting point (unknown #3), molarity of NaOH and HCl, and Equivalent Weight of the unknown #3 after the conclusion of each of these experiments.

Graded final exams, pre-lab quizzes, report sheets and final reports 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.**

I have read the entire syllabus and understood the grading system and all the additional information provided in it, including the following

1. No make-up quiz or final exam will be given. If a student misses a quiz or final, it will count as a zero.
2. Late and electronic copies of homework/reports will not be accepted.
3. Students need to show their GSU Panther I.D. card when taking quizzes and final test.
4. The instructor reserves the right to assign seating during quizzes and final test.
5. Cell-phone calculators and programmable calculators are not allowed.
6. Cell-phones need to be kept either in purses or book-bags during exams or quizzes; they should be turned off at all times. In addition, usage of all electronic devices while in the lab, is not allowed.
7. If late for class, please enter through the back door.
8. There are not make-up labs unless students have a legitimate excuse for having missed a lab session. A lab make-up session is scheduled for the 12th lab session. A written authorization signed by the instructor is required.
9. **A lab apron or coat and goggles/safety glasses are required at all times while in the lab.** Students will not be allowed in the lab wearing shorts, sandals or open-toe shoes, or tops that expose shoulders.
10. **Notebooks:**
 - A. The student must bring to lab the write-up for the experiment to be performed on each session; this must include “bullets” of the procedure(s) to be carried out and data tables to be filled out.
 - B. The student must have the lab notebook signed by the TA or instructor after each lab. No other options of records keeping are accepted.

Student Name (please print): _____; Panther ID: _____

Signature (in ink): _____; Date (in ink): _____