

LAB CHEM 1212 FALL 2017

Instructor: Dr. Tracy Kerr
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Office #: Courtland North #215
Office Hours: T,R 2- 4 pm

Lab Lecture: 10:00 – 10:50 am, 362 Petit Science Center
Laboratory: 10:50 – 1:00 pm, 355 Petit Science Center

REQUIRED TEXT and LABORATORY MATERIALS

- (1) Chem. 1212 Lab Manual (**available free during first lab**, includes course outline, schedule of activities, grading)
- (2) Stitched composition notebook
- (3) Safety glasses/goggles
- (4) **Non-programmable calculator***

***every year we have to remind students 1) to bring their calculator EVERY day to lab and 2) that it can ONLY be a non-programmable one. I will always refer back to this syllabus if you do not have one or if it is a graphing calculator.**

GRADING see page 6 of 1212 Lab Manual

Must Buy This →



Comments on Lab:

1. This is an individualized project-type lab
2. Lab notebooks should be kept up to date. **Bound notebook exactly like the one shown here is required.** All pages must be numbered and dated. **All data** must be recorded in this notebook **in black or blue ink**, NEVER PENCIL.
3. Quizzes will be closed book. Always bring your non-programmable calculator with you to lab.
4. Before lab each week, students are responsible to read and write in their lab notebooks about each experiment beforehand (We will be following the schedule on page 10 in lab manual). **A summary in your own words about the experiment including purpose, materials, and experimental methods must be written in the notebook before beginning the experiment.** TAs will check your notebooks before you enter the 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.
5. **Safety glasses required at all times in the lab.**
6. **Cleaning up is part of the lab session.** Students should stop working and begin cleaning up their work area, including their hood space, 20 minutes before the conclusion of the lab session. Points will be taken off for lab benches or fume hoods not cleaned. Students must exit the lab before or by the schedule ending time.
7. 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
8. No food and drinks allowed in the lab. Failure to follow safety rules will result in **expulsion from the lab with no make-up allowed.**

9. **No cell phones** are to be used in the laboratory. Even the TAs will abide by this. If you need to use your phone, you will wash your hands, and then go into the hallway. All cell phones must be on silent if they are in the lab.
10. **Students must present the completed “preliminary report” page at the back of the lab manual (Do NOT tear out any of these pages) following the conclusion of each experiment** (either that same day or the next week).

Preliminary reports on all calculations, in ink, must be presented at the time of the completion of each experiment, and they must be included in the appendix section of the final lab report.

To pass the lab: Students MUST

- (1) **Take the lab final exam**
- (2) **Turn in the lab report** before taking final lab exam.
- (3) **Turn in notebook** before taking the final lab exam. It is important that students work on the lab report as experiments progress during the semester. Grading distribution is on page 6 of lab manual.

First Session: Safety, synthesis assignment, check-in, and crucibles weight experiment.

During our 1st lab, pages for the crucible experiment will be distributed. These will be cut and taped into lab notebook as your first experiment. The instructor will check for these taped pages in your notebook on the second week of lab.

Sessions 2 through 11: Preparation and determination of the formula for a cobalt-amino-halide complex and determination concentration of unknowns.

Session 13: Final report and lab notebook will be due at this time.

Session 13 : Final exam and check out.

****Note: If you withdraw from the class or stop attending the lab, you still MUST check out. If you do not, you will be charged for the procedure to be done without you.****

Graded final exams 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 reserve the right to make changes to this syllabus during the semester with appropriate class notification.

ACS Safety video : <https://www.youtube.com/watch?v=MARP5Ti33II>

Week	Activities	NB Pages	
1	Safety (watch video and look at pg 59 of manual), synthesis assignments, and check-in. 1 st heating, drying, and weighing of Gooch Crucibles	-	Tape schedule and crucible pages into notebook
2	Safety exam. Begin <i>Synthesis Procedure</i>	15-22	Write prelab for Synthesis before lab
3	Complete <i>Synthesis Procedure</i>	15-22	
4	Weigh, Record Weight, and Store Synthesis Product Complete Precipitation and Determination of % Halide	23-24	Write prelab for % halide lab before lab
5	Quiz 1 Complete Precipitation and Determination of % Halide Prepare a ~0.3M HCl solution	23-24	
6	Weigh Triplicate THAM samples Perform THAM titrations to standardize HCl	25	Write prelab for THAM/HCl std titrations before lab
7	Quiz 2 Prepare Boric Acid solutions Setup NH ₃ Distillation Distill NH ₃ into three Boric Acid Solutions	26-28	Write prelab for NH ₃ determination before lab
8	Quiz 3 Prepare Boric Acid solutions Setup NH ₃ Distillation Distill NH ₃ into three Boric Acid Solutions	26-28	
9	%Co analysis by Spectroscopy	29-31	Write prelab for %Co determination before lab
10	Quiz 4 Prepare Stock Na ₂ S ₂ O ₃ solution Prepare KIO ₃ samples Complete Titrations	32-33	Write prelab for prep and std of Na ₂ S ₂ O ₃
11	%H ₂ O ₂ analysis	38	Write prelab for analysis of H ₂ O ₂
12	Quiz 5 Make up Lab. Checkout.		
13	Hand in final report and notebook. Final Exam. Checkout.		

Cut this schedule out and tape it into your lab notebook on the second page

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- 1) No make-up tests or quizzes will be given.
- 2) Programmable calculators are not allowed.
- 3) Cell-phones need to be kept either in purses or book-bags during exams or quizzes; of course, they should be turned off at all times.
- 4) **The preparation/handling of concentrated acids or ammonia solutions must be carried out under the hood. Unused concentrated acids or ammonia solutions must be diluted by adding them to water, under the hood. The amount of water to be used in the dilution depends on the amount of reagent needed to be diluted so it will not fume (about 1 in 10 dilution). The diluted solutions will be discarded in the waste drum located in the lab. Glassware used for the preparation/handling of concentrated acids or ammonia solutions must be rinsed with enough water, under the hood, and the combined rinses must then be placed in the waste drum.**
- 5) Preliminary reports on all calculations, **in ink**, must be presented at the time of the completion of each experiment, and they must be included in the appendix section of the final report; otherwise, you will be assigned the minimum amount of points for those experiments not submitted (if you have supporting data in your lab notebook). Preliminary report forms are found in the last pages of the lab manual, one for each experiment needing calculations.
- 6) The clock schedule for the lab must be followed. Students are not to enter occupied labs before the scheduled start time of the lab itself. For each scheduled lab section, clean-up must be completed by the end time of the lab so as not to disrupt the next class.
- 7) There are no make-up labs unless student has a legitimate excuse for having missed two lab sessions.
 - a. A lab make-up session is scheduled for the 12th lab session. Any authorized make-up lab session will not take place until after the midterm. A written authorization signed by the instructor is required.
- 8) **A lab apron or coat and goggles are required at all times.** Students will not be allowed in the lab wearing shorts, sandals or open-toe shoes, or tops that expose shoulders.
- 9) **Notebooks:**
 - A. The student must bring to lab the write-up for the experiment to be performed on each session; this must include 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 at the conclusion of the lab. We do not accept any other options of records keeping.