

Chemistry 1212K Lab  
Summer Semester 2017

M/W 10:00 am-1:25 pm, Room 362 & 355 Petit Science Center

**Instructor:** Dr. Danzhu Wang ([dwang19@gsu.edu](mailto:dwang19@gsu.edu))

When sending me an email, please use your official GSU email and put course name (CHEM 1212) in the subject line.

**Office:** Courtland North 202

**Phone:** 404-413-6545

**Office hour:** Monday/Wednesday by appointment

**Text:** GSU Lab manual, Syllabus (attached and P1-10 on manual), Grading (P6 on manual)

**Lab policies:**

**1. Safety glasses or goggles required to be worn at all times inside the lab.**

**Remember to bring your goggles every time include the first class (check-in). No free goggles will be provided for the first class.**

2. Dress appropriately. **Students will not be allowed to enter the lab without appropriate clothing.**

No open-toed shoes, shorts, sleeveless shirts/tops

3. No food or drink allowed in the lab includes chewing gum and candy.

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

4. Notebook: Stitched, bound notebook required

All data must be recorded in ink.

Take notes in lab notebook during pre-lab lecture

A summary of the experiment: 1) purpose 2) materials 3) Experimental methods (list points)

Sign by TA. **Data must NEVER be recorded in pencil or on other books/papers and later transferred to the notebook.**

5. Quiz and Exam: No makeup quizzes and final exam will be given.

6. Cleaning up is part of the lab session. 30 minutes before the closing time of lab session. Return all checked out items to TA 15 minutes before the end of lab.

**To pass the lab:** Students **MUST** 1) take the written lab final exam, 2) turn in a final lab report, and 3) turn in lab notebook.

**Grading Scheme:**

Satisfactory completion of synthesis, Standardization ( $< \pm 1\%$ for full credit), Analysis of product for % Co, $\text{NH}_3$ , and Halide	85 pts
Analysis for $\text{H}_2\text{O}_2$ in commercial 3% solutions ( $< \pm 0.3\%$ for full credit)	10 pts
Notebook check + performance	15 pts
Final Report	25 pts
Quizzes	25 pts
Final Exam	40 pts
Total (25% of 1212K grade total)	200 pts

Grading scheme for analysis performance based on analysis for %  $\text{NH}_3$ , Co, and Halide in synthesized product

Absolute Error range allowed (%) based on the product formular	Points
Within $\pm 1\%$	20 pts
Between $\pm 1\% - \pm 2\%$	16 pts
Between $\pm 2\% - \pm 3\%$	13 pts
Greater than $\pm 3\%$	10 pts

**Class Preparation and attendance:**

Students are expected to attend all laboratory sessions and all pre-lab lectures. Students will not be allowed to participate in the lab without attending the lecture and preparing a pre-lab procedure in the lab notebook. Every effort should be made to arrive on time, as important pre-lab advisories will be given at the start of each session. The student is individually responsible for the timely completion of all assignments, regardless of any reason of absence. Reading assignments, which will be given in lecture, should be completed prior to the following lecture and will constitute the quiz material.

**Teaching Schedule:**

The lab/lecture schedule listed on page 10 of the GSU laboratory manual will be adhered to as far as is possible.

**Students are requested NOT to bring cellular telephones and/or pagers to lectures or exams. Persons violating this request will be asked to leave the room.**

\*Deviations from this syllabus may be required.

SCHEDULE OF CHEMISTRY 1212K

Lab	DATE	WEEK	LAB EXPERIMENTS
1	June 7	1	Check in, safety quiz Weight of Crucibles
2	June 12	2	Synthesis of Co-compounds (assigned by instructor) Reweigh crucibles
3	June 14	2	Complete Synthesis of Co-compounds Reweigh crucibles
4	June 19	3	Precipitation of Halide <i>Submit % yield &amp; color for synthesized compound</i>
5	June 21	3	Complete precipitation of Halide
6	June 26	4	Prepare 0.3M HCl solution <i>Submit Crucibles Weight (P72,74), %halide (P76)</i>
7	June 28	4	Distillation of NH <sub>3</sub> <i>Submit HCl molarity (P78)</i>
8	July 3	5	Distillation of NH <sub>3</sub> Determine %NH <sub>3</sub> <i>Submit %NH<sub>3</sub> (P80)</i>
9	July 5	5	Spectrophotometer to analyze % Co <i>Submit %Co (P82)</i>
10	July 10	6	Preparation of Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> solution <i>Submit Standardization Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub> (P84)</i>
11	July 12	6	Analysis of H <sub>2</sub> O <sub>2</sub> <i>Submit % H<sub>2</sub>O<sub>2</sub> (P86)</i>
12	July 17	7	<b>Final Exam (NO make-up)</b> ☹ Clean-up, checkout and lab notebook grading
	July 19	7	<b>Final report</b> (including summary data sheet P69-70, and all preliminary reports) <b>due on July 19 (Before 12:00 pm to office)</b>