

SYLLABUS- CHEM 1212K Lab Fall 2016

Instructor: Dr. Angela M. Navarro-Eisenstein,

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Office Location: Suite 434 Kell Hall, Room C

Pre-Lab lecture: Mondays 11:00 am-11:45 am PSC 362 Lab: lab 11:55 am-2:00 pm PSC 355

Pre-Lab lecture: Tuesdays 2:00 pm-2:45 pm PSC 362 Lab: lab 2:55 pm-5:00 pm PSC 355

Office Hours: Mondays 3:00-4:00pm and Wednesdays 9:00-10:00 am. It is in "First comes first serves".

Text: GSU Lab manual (to be handed out at first lab lecture). A course outline, schedule of activities, grading, etc., is included in the lab manual.

1. Our Goal: One of the integral goals is the reinforcement of some of the material previously learned from CHEM1211 and 1211-lab: Molarity, writing chemical equations, acid base titrations, precipitation, and oxidation-reduction reactions are covered with great amount of emphasis throughout the semester. This is an individualized project-type lab. You will prepare a compound containing Co, NH₃ and halide (Cl⁻ or Br⁻). You will analyze some properties of the synthesized compound and will determine percent composition and the corresponding molecular formula.

First Session: Safety, check-in, crucibles weight experiment (pp 69 and 71 of the lab manual) Students should remove page 71 of the lab manual and affix it to the lab notebook as page 1, following the table of contents. Students should remove page 69 of the lab manual and affix it to the lab notebook as page 2. This experiment must be dated, and its format should apply to the rest of the experiments. Sessions 2 through 11: Preparation and determination of the formula for a cobalt-amino-halide complex and determination of unknown concentration. **Session 12:** Final exam and check out. Final report (including the table on page 67 of the lab manual) and lab notebook are due at this time.

2. Attendance to **lecture** and **lab** will be recorded. Absences can result in loss of points and result in lower grades. You have to sign the roll and take lecture notes in each experiment. It is required that you sign-in/out of lab book.

3. **Notebooks** should be kept up to date; a bound composition notebook is required. Lab notebooks must be brought to lab every session and all data should be recorded **in ink** when that data is observed. You need to follow all requirements as described in the lab manual. Organization is part of the grade.

- ✓ you must include a **table of contents** on the first pages.
- ✓ always write the date,
- ✓ title of experiment,
- ✓ chemical reaction,
- ✓ procedure,
- ✓ observations and conclusions on the right side of the notebook.
- ✓ leave the left side empty for calculations.
- ✓ all pages must be numbered on the top right of the page.
- ✓ do calculations or write measurements only on the left side.
- ✓ lab notebooks must be recorded **in ink** at the time the measurements are made.
- ✓ your notebook will be graded without notice, bring it to every session!
- ✓ **your work notebook must be signed after each experiment by the instructor or teaching assistant (TA) at the end of each lab.** All pages must be numbered.
- ✓ notebooks are no returned to the students. Within 2 weeks of the beginning of next semester all notebooks will be discarded.

4. **Safety glasses** are required and must be worn at **all times**. Students who forget to bring their glasses may **buy** a pair from their lab Coordinator by filling out a breakage form in the lab. Students who obtain glasses in this manner will pay for them at the time they check out of the lab. Students will not be

allowed into the lab without their glasses/goggles. **Safety glasses required at all times.** You need to take a safety quiz on week 2.

5. Clean up is part of the lab session. 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. Students should stop working and begin cleaning up their work area, including their hood space, **15 minutes before** the conclusion of the lab session. Students must exit the lab by the time scheduled in Go-Solar.

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. Before you start any procedure contemplate how much time is expected for the experiment itself combined with the time to assemble equipment (distillation of ammonia, or titrations) and your own skills in the lab. Students will not be allowed to stay to finish any experiment and will have to start over the following week.

7. **Failure to follow safety procedures will result in expulsion** from that lab session with no make-up allowed and loss of credit. The preparation/handling of concentrated acid or ammonia solutions must be carried out under the hood. Unused concentrated acid 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 in10 dilution). The diluted solutions will be discarded in the waste drum located in the lab. Glassware used for the preparation/handling of concentrated acid or ammonia solutions must be rinsed with enough water, under the hood, and the combined rinses must then be placed in the waste drum.

8. Quizzes may be announced or unannounced, closed book. No make-up tests or quizzes will be given. Students need to show their GSU Panther I.D. card when taking exams and quizzes. The instructor reserves the right to assign seating during exams and quizzes.

9. Department of Chemistry Statement on Student Integrity applies to this course (see below).

[DEPARTMENT OF CHEMISTRY POLICY STATEMENT REGARDING STUDENT INTEGRITY]:

The Department of Chemistry follows the university policy on academic honesty published in the "Faculty Affairs handbook" and the "On Campus: The Undergraduate Co-Curricular Affairs handbook." Any suspected offenses may be referred to the Department Chair for appropriate action. **All tests taken must represent your individual, unaided efforts.** To receive or offer information during an examination is cheating. The use of unauthorized supplementary materials during tests is also cheating. All laboratory work performed during this course must reflect your individual effort. Only original data obtained by your own laboratory experimentation are permitted to be used; except when specifically authorized by your laboratory professor. Data from supplementary sources (handbooks, reference literature, etc.) must be clearly referenced (title, author, volume, page(s), etc.). Falsification or destruction of data constitutes cheating]

10. Cell-phone and programmable calculators are not allowed. 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. If a student need to make a call, please don't do it inside the lab.

11. **Preliminary report forms** are found in the last pages of the lab manual, (pages 73-83) one for each experiment. All calculations are duplicates or triplicates. Students must turn in Preliminary reports on all calculations following the conclusion of each experiment (pages 73-83 of lab manual). Students must **record all calculations in the notebook before turning in preliminary report.** **Reports** on all calculations must be submitted **in ink.** INSTRUCTOR WILL GIVE A FEEDBACK TO STUDENTS IF VALUES ARE WAY OFF

TO HELP STUDENT IMPROVE. **The instructor will keep and grade the preliminary reports and she will attach them to** the appendix section of the final report at the end of semester. You will need that data to work on the final report. You must have supporting data observations, masses, grams, and volumes (no only percentages) in your lab notebook to validate the final report. **IMPORTANT: “Dr. Navarro-Eisenstein WILL NOT RETURN GRADED PRELIMINARY REPORTS”.** **One point will be deducted for preliminary report turned after deadlines. It is critical you show calculations of percent deviation for all experiments.**

12. Make-up lab policies are posted on the door outside the lab. No make-up labs prior to DROP DAY. A written authorization of your lab instructor is required.

13. Graded lab notebooks must be picked up from the lab instructor’s office within two weeks following the final grade deadline (after which time they will be discarded into a re-cycling bin).

14. 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.**

15. Use your lab time wisely, come prepared work a Notebook Prelab: Preparation before the experiments is required. You must read the experiment and outline it, state title, date, objective, chemical equations, list of reagents and solutions to be used. The more you prepare before you enter the lab, the better results you will obtain, and easier the experiment will become to you as a result, you will leave the lab early. Your notebook must be signed before you leave by myself or one of my TA’s after the experiments. Include all calculations and conclusions after each experiment. The use of little pieces of papers is not acceptable in a chemistry lab.

16. The order of experiments and an outline and description of activities are listed on pages 8-13 of the lab manual.

17. **Grading point distribution** is listed on page **6** and **grading scheme for analyses performed is listed on page 56** of the lab manual.

18. All students should check out on weeks 12 and 13 only, unless you drop the class and check out early.

19. **FIRST DAY:** Safety, check-in, crucibles weight experiment (pp 69 71 of the lab manual provided with the lab write up and tables to keep records of the crucible weights.) Students should **remove page 69** of the lab manual and affix it to the lab notebook as **page 1**, following the table of contents. Students should remove **page 71** of the lab manual and **affix** it to the lab notebook as **page 2**. This experiment must be dated, and **its format should apply to the rest of the experiments to be performed during the semester.** You **MUST** select an analytical balance when you begin weighing and drying your crucibles. **You need to continue using the same analytical** balance throughout the semester. **HOWEVER**, you should not use analytical balances for weighing of reagents used in the preparation of the cobalt compounds for this purpose. One and two decimal place top load balances are available.

20. Quizzes may be announced and/or unannounced, closed book. Study the experiment of the week and calculations to succeed.

21. Cleaning up is part of the lab session. Students shall stop working and begin cleaning up their work area, including their hood space, 15 minutes before the conclusion of the lab session. Do not leave

before you show us your CLEAN desk, and you get your **notebook signed** by the instructor or teaching assistant. Students MUST exit the lab on time: another group follows right after our period.

22. Final report. To ensure authentic data for all procedures are used Dr. Navarro will keep all preliminary reports for all analyses. Please be aware that the **final report** deadline is listed as **the day of the lab final** exam. Make sure you fill the form on **page 67** of the lab manual **as part of your lab final report. (that form is not the report, it only includes data).** The report is CTW, critical thinking writing about the lab project- the writing quality alone worth 25 points/200 points.

23. Please bring me a schedule of your **RELIGIOUS HOLIDAYS OBSERVANCE** the **SECOND WEEK** of class. **If you fail to do so you might miss important quizzes for this course.**

24. It is crucial that you keep up with our lab schedule, use a small 1" binder with clear cover and insert the schedule below inside. Please print all my e-mails and keep them together.

25. It is very important that before each experiment you read pages 8-11 in your lab manual for outline of experiment, lab activity overview and prelab-notebook preparation

26. **Mondays' lab** begins August 29 and ends on December 5. **(There is no lab on Labor Day)**
Tuesdays' lab begins on August 30 and ends on November 29.