

# Chemistry 1212K Laboratory

<b>Instructor:</b>	Dr. Jeremiah D. Harden
<b>Contact:</b>	201 Courtland North, <a href="mailto:jharden@gsu.edu">jharden@gsu.edu</a> , 404-413-5594
<b>Office Hours:</b>	Tues. 1-4; Fri. 1-5
<b>Semester Midpoint:</b>	Friday Feb. 24 <sup>th</sup> ; You MUST withdraw from both lecture and lab.
<b>Lab Meetings:</b>	12:00 – 3:00 pm <b>Monday</b> Aug. 30 <sup>th</sup> – November 29 <sup>th</sup>
<b>Pre-Lab Lecture:</b>	<b>Monday</b> 12:00 – 12:45 am in PSC 362
<b>Lab:</b>	<b>Monday</b> 12:45 – 3:00 pm in PSC 355
<b>Lab Manual:</b>	Quantitative Analysis with a Practical Purpose (Lab Manual) (supplied by lab coordinator in the first lab period)
<b>Web Site:</b>	<a href="http://chemistry.gsu.edu/ugrad_students.php">http://chemistry.gsu.edu/ugrad_students.php</a>

## Laboratory Materials Required:

- 1) A stitched and bound notebook; **no spiral notebooks, no tear-out pages**
- 2) Safety goggles or glasses. May purchase from lab coordinator, safety glasses: \$4.70; safety goggles: \$5.80.

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

**Grading:** Lab Manual pp. 6, 53. The laboratory constitutes 25% of the course grade. Except for the first experiment on density, the rest of the lab activities are designed as an INDIVIDUALIZED STUDENT PROJECT that will continue throughout the semester.

**Lab Notebook:** Lab Manual pp. 4. You must have a **bound and stitched lab notebook**. Leave 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 will be checked from time to time, and signed each lab period.

## Data, Quizzes, Examinations and Reports:

Expect a pre-lab quiz covering that day's lab each pre-lab lecture.

Data sheets are due as specified in the schedule below

A formal comprehensive final report due on November 29<sup>th</sup>.

Lab notebook due on November 29<sup>th</sup>.

Lab drawer checkout due by November 29<sup>th</sup>.

**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.**

## Tentative Lab Schedule

Date	Week	Activities	Pages
1/23	1	Safety video and check-in Store Gooch Crucibles to keep Dry	-
1/30	2	Safety exam (see questions and answers) Complete Assigned Synthesis Procedure	15-22
2/6	3	Complete Assigned Synthesis Procedure	15-22
2/13	4	Weigh and Store Synthesis Product Complete Precipitation and Determination of % Halide	23-24
2/20	5	Complete Precipitation and Determination of % Halide	23-24
2/27	6	Weigh Triplicate THAM samples Perform THAM titrations	25
3/5	7	Prepare Boric Acid solutions Setup NH <sub>3</sub> Distillation Distill NH <sub>3</sub> into three Boric Acid Solutions	26-28
3/12	8	Prepare Boric Acid solutions Setup NH <sub>3</sub> Distillation Distill NH <sub>3</sub> into three Boric Acid Solutions	26-28
3/26	9	Prepare Stock Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> solution Prepare KIO <sub>3</sub> samples Complete Titrations	29-30
4/2	10	Complete Titrations of Synthesis Product For % Co analysis	37-46
4/9	11	Complete analysis of Unknown Fe Salt	52-63
4/16	12	Make up Lab. Checkout.	53-55
4/23	13	<b>Final Exam (10:00 am - 12:00 am), submission of final report and notebook, checkout.</b>	