

Section 001

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Section 002

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*Teaching Assistants:*

Section 001: Rachel Hardie: 317 Mendel Hall (research laboratory), rachel.hardie@villanova.edu

Section 002: Rachel Hardie: 317 Mendel Hall (research laboratory), rachel.hardie@villanova.edu

*Laboratory:* Section 001: T 8:30 am–12:20 pm, Mendel 206  
Section 002: R 8:30 am–12:20 pm, Mendel 206  
*Laboratory lecture:* Sections 001 & 002: F 3:30–4:20 pm, Mendel 256

*Text:* Chemistry lab notebook (spiral bound), available at the Villanova bookstore

*Contents:*

This class will involve the synthesis, isolation, purification, and characterization of a variety of inorganic compounds. The laboratory is designed to reinforce concepts from CHM 1311 and to allow you to learn the basic techniques and skills employed by practicing inorganic chemists.

*Attendance policy:* Attendance is mandatory for all students.

- Laboratory and lecture attendance is compulsory for freshmen. A freshman student will fail a course (receive a grade of Y) whenever he/she has been absent unexcused once more than double the number of weekly meetings for the course. *Any student who misses three laboratory periods for CHM 1301 will receive a failing grade.*
- Excused absences will be granted for the following reasons: approved athletic participation, approved field trips, certified serious illness, death in the immediate family, or approved placement activities. The Student Absence Card, available from the Dean's Office, must be presented to the Dean no later than 4:30 pm on the day the student returns to classes. In the event of an excused absence, it is the student's responsibility to meet with the instructor to make up the work that was missed during the excused absence.

*As a courtesy to your peers, please turn off all cell phones during lecture and lab.*

*Grading policy:*

- Pre-laboratory exercises: 20%
- Laboratory Reports: 60%
- Technical Grade/Participation: 10%
- Mini-research Challenge: 10%

*Grading policy (continued):*

- All pre-laboratory assignments and laboratory reports are due at the beginning of lab. *Late assignments will not be accepted.*
- Laboratory reports are required for each experiment. The report is due one week after the experiment is completed. One exception is the mini-research challenge; in this case, your results will be presented in poster format during the last laboratory session (in lieu of a final exam). (You will also submit your notebook pages, including all data, spectra and calculations, for the mini-research challenge.) The laboratory reports will be weighted according to the amount of class time dedicated to running a given experiment.
- Format and content for prelab assignments and laboratory reports and the nature of the technical/participation grade will be discussed further during laboratory lecture.
- Final grades will be assigned according to the following scale:
  - 90–100% A<sup>-</sup> / A
  - 75–89% B<sup>-</sup> / B / B+
  - 60–74% C<sup>-</sup> / C / C+
  - 45–59% D<sup>-</sup> / D / D+
  - < 45% F

*General Policies:*

1. Students will typically work in pairs for experiments. While students are encouraged to work together as laboratory partners and to discuss laboratory results as a group, each student is required to submit his or her own laboratory reports.
2. Students must come to the laboratory prepared; this includes reading the laboratory handout (distributed prior to laboratory lecture) and completing the prelab assignment. Being prepared is imperative for completion of the experiments in a timely fashion and for safety reasons.
3. Safety instructions and other procedures will be discussed at the beginning of the lab period, therefore it is very important to *be prepared and on time.*
4. Safety must be everyone's first priority in the laboratory. Students will be dismissed from the laboratory and assigned a zero for the lab period for any infraction of the safety regulations.
5. *Students must wear mono-goggle safety glasses and a lab coat or apron at all times.* Closed toed shoes are also required. Long hair must be pulled back. Appropriate laboratory attire will be discussed further during the first laboratory session.
6. Eating, drinking, and gum chewing are not allowed in the laboratory.
7. Common sense and consideration of fellow workers must be exercised rigorously and constantly. This includes proper disposal of chemical waste and keeping the laboratory clean.
8. A rotating "clean-up crew" will be assigned each week to insure that the laboratory common areas (balance room, reagent fume hood, etc.) are kept clean. This task will contribute to your technical/participation grade.

*Important dates:*

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| • Last day for drop/add:                   | August 30      |
| • Labor Day:                               | September 7    |
| • Semester recess (no lab or lab lecture): | October 12-16  |
| • Midterm grades submitted:                | October 21     |
| • Advising begins for Spring 2010:         | October 23     |
| • Last day for authorized withdrawal:      | November 11    |
| • Thanksgiving recess (no lab):            | November 25-27 |

Schedule of Experiments

Week #	Experiment	Date		
		Lab Lecture	Section 001	Section 002
1	Check-in / Safety information	–	8/25	8/27
2	Density, Accuracy, and Precision	8/28	9/1	9/3
3	Empirical Formula of a Metal Oxide	9/4	9/8	9/10
4	Ferrofluids	9/11	9/15	9/17
5	UV-Vis Spectroscopy of Cu as $[\text{Cu}(\text{en})_2]^{2+}$	9/18	9/22	9/24
6	Cobalt Chelates	9/25	9/29	10/1
7	Alum from Aluminum Cans	10/2	10/6	10/8
8	Growing Alum Crystals / ICE kits / FTIR of Alum	10/9	10/20	10/22
9	Growing Alum Crystals / ICE kits / FTIR of Alum continued	10/23	10/27	10/29
10	Mini-Research Challenge	10/30	11/3	11/5
11	Mini-Research Challenge continued	11/6	11/10	11/12
12	Mini-Research Challenge continued	11/13	11/17	11/19
13	Poster Session / Check-out	11/20	12/1	12/3

\* no lab on 11/24(T), 12/10(R); no lab lecture on 12/4(F) or 12/8(F) \*

*Note:* the laboratory schedule is subject to change. All changes will be announced during lab lecture.

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All laboratory handouts will be distributed by email prior to lab lecture for a given experiment. It is your responsibility to print out the handouts to adequately plan for lab.