

Chemical Principles Laboratory II

Chemistry 1225
Rob Alumbaugh and Doug Harris
Spring 2019 Course Syllabus
1 credit

Dates		Group A (Widtsoe 003)	Group B (Widtsoe 104)
January	7 th – 11 th	Course Policies – Safety Review	Course Policies – Safety Review
January	14 th – 18 th	Lab Drawer Check In Colligative Properties	Lab Drawer Check In Base Hydrolysis of Ethyl Acetate
January	21 st – 25 th	No experiment this week	No experiment this week
January/February	28 th – 1 st	Base Hydrolysis of Ethyl Acetate	Colligative Properties
February	4 th – 8 th	Qualitative Analysis	Qualitative Analysis
February	11 th – 15 th	Qualitative Analysis (continued)	Qualitative Analysis (continued)
February	18 th – 22 nd	No experiment this week	No experiment this week
February/March	25 th – 1 st	Titration of Acids and Bases	Titration of Acids and Bases
March	4 th – 8 th	Determination of the K_a of a Weak Acid	Determination of the K_{sp} for Calcium Hydroxide
March	11 th – 15 th	Spring Break	Spring Break
March	18 th – 22 nd	Determination of the K_{sp} for Calcium Hydroxide	Determination of the K_a of a Weak Acid
March	25 th – 29 th	Electrolysis, the Faraday, Avogadro's Number	Activity Series
April	1 st – 5 th	Activity Series – Lab Drawer Check Out	Electrolysis, the Faraday, Avogadro's Number – Lab Drawer Check Out
April	8 th – 12 th	TA/Course Evaluations – Score Check – Final Exam	TA/Course Evaluations – Score Check – Final Exam
April	15 th – 19 th	Make Up Experiment Beer's Law	Make Up Experiment Beer's Law

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Materials

Lab Text (required): "Chemistry 1225 – Chemical Principles Lab II" Catalyst – The Prentice Hall Custom Laboratory Program for Chemistry

Lab Notebook (required): "Student Lab Notebook" from the USU bookstore (carbon-copy pages absolutely necessary)

Goggles, lab coats, full-length jeans with no holes, socks, and "complete" shoes are required in the laboratory.

The lab fee of \$75 is used to purchase equipment and supplies for the laboratory as well as a small portion for teaching assistant compensation.

Grades

A score of 90% is guaranteed an A- and 95% or better is guaranteed an A. Final scores will be rounded to nearest one's place (94.4% = 94% and 94.5% = 95%).

Safety Documentation Review and Signature Sheet.....	20 points
5 Unannounced lab notebook checks @ 10 pts.....	50 points
8 Lab reports @ 20 pts.....	160 points
Final Exam.....	100 points
TA Evaluation of Student (safety, cooperation, independence)	50 points
Total.....	380 points

Policies and Procedures

1. The administration of Chemistry 1225 will adhere strictly to the policies (including the issuing of incompletes) outlined in the USU 2018 – 2019 General Catalog.
2. Qualified students with disabilities may be eligible for reasonable accommodations. All accommodations are coordinated through the Disability Resource Center (DRC) in Room 101 of the University Inn, 797-2444 voice, 797-0740 TTY, or toll-free at 1-800-259-2966. Please contact the DRC as early in the semester as possible. Alternate format materials (Braille, large print or digital) are available with advance notice.
3. Service Animals in the CHEM 1225 lab: Utah State University is committed to providing access for service dog handlers. Due to the unique nature of the laboratory environment service animal handlers must meet with the Disability Resource Center prior to bringing a service dog into the lab. The purpose of this meeting is not to prevent you from having your service animal with you but rather to understand how to best accommodate your needs and the needs of your animal. Please contact the Disability Resource Center at 435-797-2444 or drc@usu.edu to set up an appointment.
4. Attendance at all the assigned meetings is required. A missed experiment which has an excused absence will be made up by appointment only with the last scheduled experiment (Beer's Law). Excused absences include: (1) school excused absences outlined in the general catalog, (2) illness, and (3) a family emergency. Planned family trips, vacations, outings, and weddings are not excused absences. Students should notify the TA in advance, if possible, prior to missing an experiment. Students missing an experiment will have one week to notify the TA that they have a valid excuse. A missed experiment that is not made up will be scored as **zero**. Only one missed experiment can be made up.
5. Individuals not wearing safety goggles, lab coats, full-length jeans with no holes, socks, and "complete" shoes (no sandals or pumps) will not be allowed in the laboratory, no exceptions.
6. All students must read and sign the Utah State University Chemistry and Biochemistry Departmental *Laboratory Safety Agreement Documentation* before beginning lab experiments.
7. Students must be registered for the lab section they attend. Failure to do so will result in an F letter grade being assigned to the university.
8. Notebooks: Students are required to keep an organized record of lab work in their lab notebooks. An experiment procedure that is detailed enough for someone else to follow and repeat the experiment should be entered into the lab notebook before starting each experiment. Your lab TA will provide additional specific information regarding the organization of what to include in the lab notebook. In order to ensure that students have reviewed each experiment and the lab notebook is properly prepared, 5 unannounced lab notebook checks will be performed at the beginning of the experiment in which the TA will call for the duplicate copy pages for the prepared experiment. All work done in the lab must be summarized in the note book. *No writing on the lab report forms is permitted during the lab periods.* All notebook entries must be in ink. Incorrect entries and mistakes should be crossed out and followed by correct entries.
9. Each lab report is due at the beginning of the next laboratory session. Late reports will be assessed a 10% penalty per week. The lab report for the final experiment (Beer's Law) will be due at the conclusion of the lab period that it is performed.
10. Students must review all lab course scores at the score check meeting time (April 8th – 12th). It is also recommended that students retain all scored course laboratory work. Teaching assistants will not declare a student's final lab course grade at the score check meeting.
11. The Banner/Access system will automatically drop a student from the CHEM 1225 lab course if the student drops the concurrently enrolled CHEM 1220 lecture course. Students that have completed all of the experiments up to the Determination of the K_a of a Weak Acid (group A) or Determination of the K_{sp} for Calcium Hydroxide (group B) may make a special request to Dr. Harris to remain registered for the CHEM 1225 lab course.

Course Objectives and Assessment

Chem 1225 laboratory experiments are designed to cover a range of general chemistry concepts covered in the Chem 1220 lecture course. The experiments deal with the determination of chemical composition and characteristics, acid/bases and their salts, spectroscopy, the characterization of reactions, and electrochemistry.

Assessment of the course will include an end-of-semester evaluation seeking suggestions for course improvement.