

Chemistry 114

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Location

All lab sections in the Beaupre Center undergraduate labs
Section time and dates in ecampus

Course Description

Chemistry 114 is the laboratory course that accompanies the Chemistry 112 lecture. Use of a scientific calculator is required and either credit for chemistry 112 or concurrent enrollment in Chemistry 112 is a prerequisite to this lab course. Specific information regarding the course is given in the following pages.

First week of classes

All students must attend the first laboratory session to complete the required paperwork. If you miss this lab, you must contact Dr. Geldart before Friday of the first day of classes to get information regarding a laboratory makeup. No laboratory makeups will be given after Friday of the first week of classes and you will be dropped from the lab. We have a long waitlist of students trying to get into the course, so if you do not show up, we conclude that you are not interested in the course and will give your place to someone on the waitlist.

Experiments

Week	Experiment #	Material Covered
1	Mandatory check-in	Safety and Regulations (If you do not attend you will be dropped)
2	Experiment 1	Isolation method
3	Experiment 2	Rate laws
4	Experiment 3	Equilibrium, K_c
5	Experiment 4	pH
6	Experiment 5	K_a
7	Experiment 6	Buffers
8	Experiment 7	Solubility
9	Experiment 8	Thermodynamics and K_{sp}
10	Experiment 9	Electrochemistry
11	Exercise 10	How to write a formal lab report: In class exercise
12	Lab practical	50% Lab Practical and 50% Written Problem Solving
13	Makeups	Sign up in the stockroom for dates and times

Required Materials for Every Lab

Safety Equipment

You need to have safety glasses, a lab coat, nitrile gloves and shoes that completely enclose your feet for each experiment. If you do not have the proper safety equipment or are wearing improper footwear, you will be asked to leave the lab and may not return until properly dressed.

Lab Manual

You must bring your lab manual to each class. It contains the materials you need for your concept review as well as your medical information form. The medical information form provides vital information to medical personnel if you are unconscious or incapacitated. You will never be asked to show the information on this form to your TA or other students at any time during the semester, so please note any information that will be needed in an emergency. Always bring this form with you to class. If you forget your lab manual, then just fill out a new form before you start the experiment.

Calculator and Black or Blue Pen

You will need a calculator and a black or blue pen for the lab for recording data, and answering the questions on the concept review. You will not be allowed to share a calculator during the lab, so be sure to bring your own. **You cannot use a cell phone as a calculator.**

Course Policies

Late to lab

If you are late to lab, you will lose time on the concept review quiz so you will have to pass in whatever you can finish in the remaining time. No makeup will be given. If you are later than 30 minutes, you will not be allowed to perform the lab for that day and will have to sign up for a makeup.

Missed Labs

Your semester grade will be based on completing all 10 laboratory experiments. Ideally you will be able to attend all your labs, but if there is an emergency, a limited number of makeup labs will be offered near the end of the semester. You cannot use the makeup lab session to redo an experiment you have already performed because you got a low grade. You do not need to hand in the concept review or the prelab for your missed lab, but you will be responsible for the missed material on the lab practical, so be sure you are familiar with the missed experiment. The procedures for a missed lab are given in the lab manual. A second missed lab requires documentation from the university citing why you were excused from the lab the day you were absent. Avoid missing a lab at all costs. It is not easy to make up the experiment.

Grading

The teaching assistant assigned to your section does all the grading for the course. Contact your TA immediately if you have a problem with the grading of your work. If the problem does not get resolved through your TA, contact Dr. Geldart immediately. **No changes in grades will be made if the problem is not addressed within 1 week of receiving your graded material back from your TA.**

Do not compare the grading on your work to that of a student with a different TA. All teaching assistants grade slightly differently. At the end of the semester, the course supervisor evaluates the grades of each TA and will assign a scale (if necessary) to each section to assure that the overall grades of the teaching assistants will be similar. Therefore, a strict TA with lower grades overall will have a more generous scale than a TA that is more lenient. For example, one student that receives a B+ in the course may have an 87 average with a lenient TA and a student with a different TA may still get a B+ but may only need an 80 average instead.

All work handed in during lab is to be graded and returned to you at your next lab session. If you have not received your graded work promptly, please notify the course supervisor immediately so that your graded work is returned to you by the next lab.

Plagiarism

Any signs of plagiarism, (identical or near identical information from another source), will be taken very seriously. If plagiarism is suspected on any graded work, you may receive a zero for the submitted material. Make sure that all submitted material is your own work. A second instance of plagiarism will be addressed through the office of student life and handled on a university level. Any suspected incidences of plagiarism will be dealt with very severely. See the departmental plagiarism policy in the lab manual for more detailed information.

Injuries, Illness or Under the Influence

If you are injured or become ill during the lab, you can leave the lab without penalty. You will then need to discuss make-up options with your TA. If you enter your lab under the influence of drugs or alcohol, your TA has the obligation to immediately remove you from the lab without a make-up option.

Use of a Cell Phone in Lab

Unless there is an emergency in the lab, if you are seen using a cell phone in your lab you will immediately be asked to leave and will not be allowed a makeup. **Cell phones must be turned off when in lab. If you leave the room to answer a cell phone call or a text message, you will not be allowed back in to complete the experiment and will not be allowed a makeup.**

Teaching Assistants

TA Contact Information

Each TA is assigned an email address specific to the chemistry department. Your TA's email can be found on the course website (www.chm.uri.edu) under the "For current students" tab at the top of the page. Email is the best way to contact your TA. Your TA should respond back within 24 hours to any email sent between 5pm on Sunday through 8am on Friday. TAs are not required to respond to any emails on weekends. **If your TA does not respond within 24 hours of sending your email, please email Dr. Geldart immediately so your concerns will be addressed as soon as possible.**

TA Duties during Lab

Your TA is expected to administer the concept review each week at the start of class. The concept review is used to test that you have retained a general understanding of the previous week's lab material. Questions regarding the material for the concept review should be addressed earlier in the week, well before the start of the lab, so do not expect your TA to answer questions immediately before you start the review.

During the experiment, the TA is available to help you set up equipment and answer questions pertaining to the current experiment. The TA cannot review any graded work while any experiments are going on, so if you have questions regarding anything but the current experiment, please email the TA later to set up a time outside lab to discuss your concerns.

Extra Help and Accommodations

Disabilities or Sports Accommodations

Please contact the course supervisor immediately with the paperwork from disabilities services if you need accommodations. The concept review quizzes are designed to take approximately ½ hour of the lab time. You cannot go longer during the lab time, so if you need extended time, you must make arrangements with the course supervisor to get the extra time outside your regularly scheduled lab. If you have a chronic condition or a sports schedule that may result in missing more than 1 lab, please see the course supervisor about setting up an alternative lab session in case you miss lab.

Beaupre Learning Center, room 115

All teaching assistants in our department spend one hour a week Chemistry Learning Center, Room 115 in the Beaupre Center. The schedule will be posted on Sakai as soon as it is available. If you need help with the concept review information, performing the lab calculations or the material in the lecture associated with your lab, you can see any TA teaching your course in the Learning Center. Do not wait to review the conceptual material until just before lab. Get help well before you need to pass in your results or do the concept review. Ideally you should see your own TA, especially if you have a question regarding something specific to your lab section or grading, but any 114 TA can answer general questions on the experiment or the lecture material.

Grading and Point Distribution

Point distribution

	<u>Points</u>	<u>Percent of grade</u>
Prelabs	10 points	10%
Informal lab reports	100 points	60%
Lab Practical	200 points	30%
		100%

Course grades will be assigned according to the scale shown.

>90 = A-/A 80 - 89 = B-/B/B+ 65- 79 = C-/C/C+ 59 - 64 = D/D+ <60 = F

Different TAs may have slightly different scales, so do not compare your grades to those of students in different sections. Final scaling is done after the final.

Pre-labs (10pts each)

There is a pre-lab required before every experiment. It is due at the start of the experiment. You cannot pass in the prelab once you have started the experiment. The purpose of the pre-lab is to be sure that you have read the lab thoroughly, understand the general concepts behind the lab, know the safety precautions and can perform the calculations given in the experiment. If you have any questions on any of the material in the experiment, see a TA in the Learning Center before your lab.

Informal lab reports (100pts total)

The informal lab report includes the experimental procedures and data from the previous week as well as the results table that you generate from the calculations section of the experiment. You will use these portions of the experiment to complete the concept review at the start of the next lab session. When you are finished with the concept review quiz, all three sections will be passed in together and will be graded as a single report. A grading rubric is included with each section of the report so you know exactly where you lost points.

Experimental procedures and data (20pts)

This is the work that will be done during your lab time. Be sure to use correct significant figures and units on all values. Complete all the sections carefully since you will use this data for your concept review. Have your TA sign the data when you are finished so that you get credit for attending the lab. **A lab technique grade will be incorporated into this section.** If any unsafe or unprofessional behavior is observed by your TA, chemistry faculty or a member of the stockroom staff, lab technique points will be deducted from your grade. In addition, if your lab space or lab equipment is not completely clean and ready for the next person to use, you will lose lab technique points.

Results table (20pts)

The results table must be filled in before your next lab using correct significant figures and units. It contains spaces for all the calculations given in the lab. You will be allowed to use this table for your concept review, so be sure that it is complete and that your numbers are reasonable. See a TA in the help office if you have any questions on any of the calculations. You will be expected to perform the same calculations on your concept review.

Concept review (60pts)

Each week, you will answer questions regarding the previous week's experiment. You will be expected to do the calculations on your own, and you will NOT be allowed to use the written instructions given in the calculations section of the lab manual. You are allowed to use the data sheet and your results table. You can use a calculator for questions that require numerical answers. The topics covered in the concept review are given at the end of each experiment. You will not have the written questions ahead of time, so be sure to review the material in the experiment before you come to lab.

Lab Practical (200pts)

Once all the experiments have been completed, you will be tested on your knowledge by participating in a lab practical. The lab practical involves a series of stations that require you to answer questions about lab equipment, demonstrate techniques learned in the lab and may also include remembering your observations from the experiments. In addition, there will be written questions similar to those in the concept review quizzes, where you will need to perform calculations. You will need your lab coat, gloves and safety glasses as well as a calculator and a #2 pencil. The date of your lab practical is given in the schedule of experiments in Sakai. If you miss your scheduled lab practical, the makeup for it is a written exam and the time needs to be arranged through your TA.