

CHM 102: General Chemistry Laboratory (Laboratory for CHM 101)  
Spring Semester 2019

Course Syllabus part A

Laboratory Director

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Laboratory Instructors

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Required Laboratory Materials

- CHM 102 lab manual (available at the URI Bookstore)
  - RAM account and ID card, for purchases at the CHM Stockroom (Room 180)
  - Safety glasses/goggles, knee-length lab coat & nitrile gloves (can be purchased at the Stockroom\*; safety glasses will also be sold in Beaupre 115 at the start of the semester)
  - A scientific calculator with log and exponent functions
- \* Note that safety equipment can also be purchased off-campus but must be approved by the Stockroom Manager before being used in lab.

**Incomplete Policy:**

Incomplete grades cannot be assigned except in the case of a real emergency. Any grade of incomplete must be approved by the department chair and the dean. In order to receive an incomplete, a student's **course work must have been passing** and the student **must have completed at least half of the coursework for the semester**. Incompletes should be made up within one year of the semester in which the grade of incomplete was assigned. **If an incomplete is not made up prior to the two year deadline established by the University, the "I" will be replaced with a grade calculated for the student based on the work completed and including zeroes for any work not completed.**

**Important Spring 2019 Semester Deadlines:**

- Wednesday 1/23: Classes start
- Tuesday 1/29: Open add period ends
- Tuesday 2/5: Permission Number add period ends
- **Thursday 2/14: Last day to drop without a W on your transcript**
- Monday 2/18: Presidents Day - classes DO meet
- **Wednesday 3/6: Last day to drop a course in ecampus** (after this date you would need paperwork signed by your Dean)
- Monday 3/11 - Friday 3/15: Spring Break
- Monday 3/19: Freshman midterm grades
- Tuesday 4/30: Last day of classes

# Course Policies (Syllabus Part B)

## Required Materials

### 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 since it has your medical information form and the worksheets that you will need for your concept reviews.

### Calculator and Black Pen

You will need a calculator and a black or blue pen for the lab for recording data. 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.**

## 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 Sakai site. 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 the course supervisor immediately so your concerns will be addressed as soon as possible.**

### TA Duties during Lab

The lab is divided into 3 sections. First, your TA will administer a concept review quiz each week at the start of class that tests your understanding of the previous week's lab material. Questions regarding the material for the concept review should be addressed earlier in the week, so do not expect your TA to answer questions immediately before you start the review.

Once you have finished the concept review quiz, your TA will hold a recitation on the concepts that will be used for the current experiment and for the recitation problems that will be done in lab. You can ask your TA any questions you like about this material during your lab so that you have a good understanding of it before you take the concept review the next week in lab. Some of this material may not have been covered in the lecture yet, so this is your chance to get more individualized attention than you would in a lecture class.

Finally, you will perform the lab experiment. At this time, your TA is available to help you set up equipment and answer questions pertaining to the current experiment or the questions from the recitation. The TA cannot review any graded work at any time during the lab, 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.

### Beaupre Learning Center, room 115

All teaching assistants in our department spend one hour a week in the Chemistry Learning Center, Room 115. 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. Ideally you should see your own TA, especially if you have a question regarding something specific to your lab section or grading, but any CHM102 TA can answer general questions on the experiment or the lecture material.

## Grading and absences

### 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 the course supervisor immediately. Check the Sakai site each week to make sure that the grades on Sakai match your graded work. **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 letter grades of the teaching assistants are fair. 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 for the same grade.
- **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.

### Missed Labs

- **Your semester grade will be based on completing all 10 laboratory experiments. There are no dropped grades in this course!!!** 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 (see next page). Only one make-up is allowed per student except in documented cases of extenuating circumstances.
- You cannot use the makeup lab session to redo an experiment you have already performed because you got a low grade. Makeup sessions are **ONLY** for students that missed the experiment the week they were scheduled to perform.
- Makeups are held for only 2 days at the end of the semester. Once the makeup period has passed, no further makeups can be done since the chemicals will be removed from the room and the lab will be closed down until the next semester. Please note the dates when you sign up in the stockroom for a makeup.
- **If you miss a second lab, you MUST have documentation from either student services, a doctor's note on professional letterhead, or a sports adviser to be allowed a second makeup.** The documentation must include the date you missed the lab. Notes from parents, etc. are not acceptable enough documentation to warrant a second makeup! You must contact the course supervisor immediately if you feel you have a legitimate reason for a second makeup since the stockroom must be notified to prep an experiment just for you during the makeup session. **A second makeup will not be allowed if you have not notified the course supervisor within 1 week of missing the second experiment.**
- **University Sponsored Absences:** If you know that you will be missing a lab, contact the course coordinator at least 1 week in advance to work out details for making up the lab. No makeup will be allowed if the course coordinator is not given at least 1 weeks' notice of a scheduled university sponsored absence such as a religious holiday or an absence due to a university sponsored sporting event.

### 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 arrive to lab more than 30 minutes late, you will not be allowed to perform the lab for that day and will have to sign up for a makeup.

### **Disabilities 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 20 minutes. 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 your own.

### **Makeups**

There are makeup labs available at the end of the semester. The times are listed in the schedule in Sakai. Avoid missing any labs since it is usually very difficult to find time during the available makeup slots to do the experiment, especially since you are likely to have several exams in other courses that week as well. **No makeup labs will be offered outside these time slots for any reason.**

### **Makeup procedure for your first missed experiment (no documentation needed)**

1. Sign up for the makeup lab in the stockroom
  - a. The dates for doing makeup labs are given in in Sakai and in the stockroom. Note the date and time you select and room you select as you will NOT be notified when it is time for the makeup.
  - b. If you miss the makeup, you will receive a zero for the experiment regardless of the reason, so you may want to sign up for an early session.
  - c. The makeup experiment is printed in your lab manual.
2. The week after your missed lab:
  - a. Take the concept review that you would have taken during your missed lab.
    - i. Example: If you miss lab 3, will take concept review for lab 2 during lab 4.
3. Before your makeup lab
  - a. Check the date, time and room ahead of time so you don't miss it.
  - b. Read the experiment carefully and get any help you need ahead of time since you will do the concept review the same day you do the experiment.
  - c. Complete the prelab.
4. On the day of your makeup go to your assigned room.
  - a. Hand in the prelab.
  - b. Perform the experiment.
  - c. Do all calculations. This is the only time you can ask questions regarding the lab.
  - d. Complete the concept review.
  - e. Staple the concept review to the data and results table and put in the box labeled **MAKEUP LABS**.
  - f. **The report will be given to your own TA to grade, so be sure to include your TA's name.**
5. The grades you receive on the makeup for the concept review and the makeup experiment will be posted in Sakai in the space allotted for your missed lab.

### **Makeup Procedure for a second missed lab (University Documentation Required!!!!!!)**

- Contact the course supervisor immediately to set up a time for a second makeup. You must provide printed documentation from the university or a doctor to be allowed a second makeup.
- You must arrange the makeup within **1 week** of being back on campus after missing your lab. **No makeups will be allowed after that time.**
- Time options for second makeups are the same as those for first makeups, but you CANNOT do a second makeup at the same time as the first makeup. You must choose a different makeup session for your second makeup, and you must complete the first makeup before being allowed to do the second
- **Second makeups are strongly discouraged due to the extra work required of the stockroom so the rules regarding a second makeup are strictly enforced.**

## Point Distribution

### Breakdown of course grade

	<u>Points</u>	<u>Percent of grade</u>
Prelabs	10 points	10%
Recitation problems	10 points	10%
Informal lab reports	100 points	60%
Lab Practical	100 points	20%
		100%

### Pre-labs (10pts each)

There is a pre-lab required before every experiment. It is due at the start of 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.

### Recitation problems (10pts each)

You will be given recitation problems to complete during your lab once your TA has finished giving the recitation lecture. You can work on them during lab once you have completed the experiment. They must be completed correctly to receive credit. You can ask for help with the problems, but since these problems will be similar to those on the concept review given next week, you should use the lab time wisely to learn the material and not try to leave early. Ask your TA to check them before you leave the room. **If you do not have your TA check to make sure that your concept review questions have been completed correctly before leaving lab, you will receive a zero for that set of questions.**

### 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. 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 (100pts)

The lab practical involves a series of stations that require you to answer questions about lab equipment, demonstrate techniques learned in the lab and remember observations from the experiments. There will also be written questions similar to those in the concept review quizzes, where you will need to perform calculations. **No notes are allowed on any part of the lab practical so be sure to prepare ahead of time.** You will need your lab coat and safety glasses as well as a calculator. 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 during the makeup week. The exact time needs to be arranged through the course supervisor, so contact the course supervisor immediately!**

## **Departmental Policies**

### Checking into Your Lab

You must complete both the in-class and online safety quizzes and all check-in paperwork before performing any experiments. You may be tested on any information presented during this session at any time throughout the semester.

### 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.

### 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 and placed in the cubby with your other possessions. 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.**

### Stockroom Policies

If any equipment you use in lab is broken or missing by the end of the lab period, you are responsible for the cost of the equipment and will be issued a lab bill. All replacement items and bills must be processed through the Chemistry Department stockroom. All transactions must be via a RAM card, not cash. **Your TA and the course supervisor cannot change or remove a lab bill, so all billing questions must be addressed through the stockroom directly.** Additional stockroom policies and hours may be found on the department website, [www.chm.uri.edu](http://www.chm.uri.edu) under the "for current students" tab in the stockroom section.

### 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.

## Departmental Plagiarism Policy

One of our goals in this course is to reinforce the importance of scientific integrity. In recent years, there have been numerous examples of established scientists generating falsified data or copying material from another source. Acts of plagiarism both damage science and can have important impacts on society. The possibly falsified data associated with the connection between childhood vaccines and autism is an important recent example that has adversely affected both science and public health. Acts of plagiarism have destroyed many scientific careers. Consequently, we want to make clear to you what plagiarism is and penalize acts of plagiarism in a manner that makes clear its seriousness.

Your laboratory reports contain information about the purpose, theory and results of your experiments. Each of you prepares a laboratory report associated only with your name. By implication you are the sole author of that report, and no section of your report can be identical (or nearly identical) to that of another person without attribution. Reports or sections of reports identical to any other source whether that source is another student, a section of a book, or information obtained from others on the web will be treated as plagiarism. In a chemistry lab report, the first instance of plagiarized sections is to receive a grade of 0. For repeat instances of plagiarism, the entire report will receive a 0, and the incident will be referred to the Chair of the Chemistry Department and the Dean of your college.

In essence, for any material submitted for a grade, text that is paraphrased from a single source must be attributed to that source. In general, material should not be copied directly, but if necessary, the fact that it has been copied should be clearly indicated (quotation marks, etc.). This applies to both text and figures and to both written and power-point presentations. For example, the cutting-and-pasting of figures from web sources for use in power-point presentations is not incorrect, so long as you clearly show that you did not create the artwork and give credit to the source from which it was copied. If you have further questions about material that may constitute plagiarism, please visit [www.plagiarism.org](http://www.plagiarism.org).

To avoid plagiarism in lab reports, some specific guidelines to follow when writing your report are listed below.

1. Your laboratory reports contain information about the purpose, theory and results of your experiments. Each of you prepares a laboratory report associated only with your name. Since you are the sole author of that report, no section of your report can be identical (or nearly identical) to that of another person without attribution. Reports or sections of reports identical to any other source whether that source is another student, a section of a book, or information obtained from others on the web is treated as plagiarism unless the citation is included.

2. Data analysis must be performed individually. Students often work together, and the plagiarism policy is not designed to discourage collaborative learning. However, while your original data may be identical to that of your lab partner, your calculations must be your own. The sections of your reports containing the calculations must not be identical or nearly identical to anyone else. From experience it is unlikely for any two people analyzing the same data to obtain exactly the same set of calculations in the same order with the same final results. To avoid even the appearance of plagiarism, if you work with another student, you must perform your calculations by yourself or with the help of one of the instructors. Nearly identical calculation sections are examples of plagiarism.

3. There is only one exception to the plagiarism policy given above. If you generate your data with a laboratory partner, the original data included in your report should be identical to that of your laboratory partner. The other sections of your reports, including all written work and all calculations cannot be identical to anyone including your laboratory partner.

I have read the plagiarism policy outlined above. I understand that I am responsible for my own laboratory report even when the experimental data are collected with partners. I understand that any part of a laboratory report, other than original data, identical to that of any other person is treated as plagiarism. I also understand that any section of a laboratory report taken from another source is treated as plagiarism.

Signature: \_\_\_\_\_

Date : \_\_\_\_\_

Schedule of Experiments:

Dates	Day	Experiment
1/21- 1/25	M	No labs
	Tu	No labs
	W	check in
	Th	check in
	F	check in
1/28- 2/1	M	No labs
	Tu	check in / Lab 1: Density
	W	Lab 1: Density
	Th	Lab 1: Density
	F	Lab 1: Density
2/4- 2/8	M	No labs
	Tu	Lab 2: Chromatography
	W	Lab 2: Chromatography
	Th	Lab 2: Chromatography
	F	Lab 2: Chromatography
2/11- 2/15	M	No labs
	Tu	Lab 3: Stoichiometry
	W	Lab 3: Stoichiometry
	Th	Lab 3: Stoichiometry
	F	Lab 3: Stoichiometry
2/18- 2/22	M	No labs
	Tu	Lab 4: Acid/Base Titration
	W	Lab 4: Acid/Base Titration
	Th	Lab 4: Acid/Base Titration
	F	Lab 4: Acid/Base Titration
2/25- 3/1	M	No labs
	Tu	Lab 5: Redox
	W	Lab 5: Redox
	Th	Lab 5: Redox
	F	Lab 5: Redox
3/4- 3/8	M	No labs
	Tu	Lab 6: Ideal Gas Constant
	W	Lab 6: Ideal Gas Constant
	Th	Lab 6: Ideal Gas Constant
	F	Lab 6: Ideal Gas Constant

Dates	Day	Experiment
3/11- 3/15	M	Spring Break
	Tu	Spring Break
	W	Spring Break
	Th	Spring Break
	F	Spring Break
3/18- 3/22	M	No labs
	Tu	Lab 7: Calorimetry
	W	Lab 7: Calorimetry
	Th	Lab 7: Calorimetry
	F	Lab 7: Calorimetry
3/25- 3/29	M	No labs
	Tu	Lab 8: Spectrophotometry
	W	Lab 8: Spectrophotometry
	Th	Lab 8: Spectrophotometry
	F	Lab 8: Spectrophotometry
4/1- 4/5	M	No labs
	Tu	Lab 9: Molecular Models
	W	Lab 9: Molecular Models
	Th	Lab 9: Molecular Models
	F	Lab 9: Molecular Models
4/8- 4/12	M	No labs
	Tu	Lab 10: Colligative Properties
	W	Lab 10: Colligative Properties
	Th	Lab 10: Colligative Properties
	F	Lab 10: Colligative Properties
4/15- 4/19	M	No labs
	Tu	Lab practical
	W	Lab practical
	Th	Lab practical
	F	Lab practical
4/22- 4/26	M	No labs
	Tu	Makeups
	W	Makeups
	Th	
	F	