CHEM 124 Syllabus| Spring 2022

Instructors: Dr. Krista Kobylianskii (DBH 242; kristakobyl@rice.edu) for afternoon labs and discussions

Office hours: Tuesdays and Wednesdays 3:30 – 4:30 pm, or by appointment

Dr. Humayun Kabir (TBA) for evening labs and discussions

Office hours: TBA

Discussion Leaders: Emil Gillett (eng2@rice.edu)

Lixin Zhou (Lixin.Zhou@rice.edu)

Yuya Nakatani (yn25@rice.edu)

Classroom Coordinator: (Ms. Anita Walker, DBH 243, aawalker@rice.edu)

Course Aim

This course is part of a two-semester sequence designed to enhance the material from the general chemistry lecture course, CHEM 121/122, and prepare you to enter a scientific research environment. This second semester is focused on teaching you how to properly conduct a scientific experiment and analyze data. The skills that you will learn are applicable to any scientific discipline that you may pursue.

A Typical Week in CHEM 124

Here's what you can expect from a typical week in CHEM 124 once we get rolling…

1. Check Canvas to see if you have discussion or lab that week and review the learning objectives.
2. If it is a discussion week, do the pre-discussion assignment
3. If it is a lab week, prepare your prelab notes and take the safety quiz on Canvas
4. Attend lab or discussion.
5. Submit your lab notes/reflection (for lab weeks) or your discussion worksheet (for discussion weeks).
6. Check Canvas to see what's coming next week.

*Remember that you can always show up at the end of any class meeting for office hours.

Schedule

This course meets once a week. The planned schedule is below:

Date	Week #	Lab #	Lab Topic
Jan 10	1	0	Intro and Beer's Law
Jan 17	2	-	**No Meetings**
Jan 24	3	1	Kinetics
Jan 31	4	1	Kinetics Discussion
Feb 7	5	-	**Spring Recess – No Meetings**
Feb 14	6	2	Equilibrium
Feb 21	7	2	Equilibrium Discussion
Feb 28	8	3	Gas Laws
March 7	9	3	Gas Laws Discussion
March 14	10	-	**Spring Break – No Meetings**
March 21	11	4	Acids Discussion
March 28	12	5	Titrations and Buffers
April 4	13	5	Titrations and Buffers Discussion
April 11	14	6	Electrochemistry
April 18	15	-	Makeup Labs

Weekly Meeting Times

Double check in which section you are enrolled (in Esther). Note that there are multiple sections on each day. Be sure that you attend the correct one:

Section…	Meets on…	At…
001	Mondays	2:00 pm - 5:30 pm
002	Tuesdays	2:00 pm - 5:30 pm
003	Wednesdays	2:00 pm - 5:30 pm
005	Wednesdays	6:30 pm - 10:00 pm
004	Thursdays	2:00 pm - 5:30 pm

Location

All labs will take place in **DBH 200**. All discussions will take place in **ABL 130**. Please arrive to the correct location based on whether you are scheduled for lab or discussion on a given day. *For the first day of classes please attend the Zoom meeting that will be posted on Canvas.*

Attendance

Attendance is mandatory for every meeting. Punctuality is also important. Points will be deducted from your grade for tardiness.

If you fail to attend the lab OR a discussion, you will receive a zero for all assignments associated with that lab or discussion. Regardless of the reason for missing a lab or discussion, it is your responsibility to email **Dr. Kobylianskii** (even if you are in Dr. Kabir's section) as soon as possible.

If your absence is excused, you may make up the lab/discussion during another section or in the makeup session at the end of the semester. Excused absences include: illness that prevents you from attending class and approved university commitments, such as travel for a university competition or special event like a university performance. Exams in other classes do NOT fall under this category. If another instructor schedules an exam during your lab time, you should contact that instructor about rescheduling the exam. Elective personal travel and events such as regular club meetings or sports practice do not count as excused absences.

For approved university commitments, contact **Dr. Kobylianskii** (even if you are in Dr. Kabir's section) at least one week in advance of your absence so that you can reschedule to attend a different section. For unscheduled absences, such as illness, email **Dr. Kobylianskii** (even if you are in Dr. Kabir's section) as soon as you realize you will not be able to attend.

Technology Requirements

Canvas

This course will be primarily online. Canvas will be your main guide through the course materials, you should check at least once a week a few days before your scheduled meeting time.

Adobe Reader

You must use Adobe Reader to open, fill-out and submit all of your assignments. This app is available to everyone free of charge and can be downloaded at: get/adobe.com/reader/

Using other pdf readers is discouraged since some content that you add may not appear properly after you submit your assignment. This will result in a grade of zero for illegible answers. It is your responsibility to confirm that your submitted pdf document contains your responses. i.e. view your assignment within Gradescope after uploading.

Gradescope

You will submit all pdf assignments using an app called Gradescope. You will receive and email requesting that you setup a Gradescope account. Further training on using Gradescope will be provided in class.

Required Materials

- ✓ There is no lab manual or textbook for this course. All reading materials, instructions and assignments will be available on Canvas.
- ✓ A **laboratory notebook** is required. It must be carbonless-copy and top-perforated. Details on purchase options will be provided in class.
- ✓ A **lab coat** is required. If you did not receive one in the first semester of General Chemistry email Dr. Kob and one will be provided for you.
- ✓ **Safety glasses** are required and will be provided for you.
- ✓ You must wear **closed-toe shoes with backs and clothes that fully cover your legs** while in lab.

Safety Regulations

Students will not be allowed to work in the lab if they fail to meet the lab safety regulations. These regulations are detailed on Canvas in Week 1, and will be covered in the first class meeting. In Week 1 on Canvas, you will need to complete a safety quiz and indicate that you have read, and agree to abide by the lab safety rules.

You must wear the following Personal Protective Equipment (PPE) at all times when working in the lab (no exceptions):

- Safety glasses/goggles (regular glasses cannot replace safety glasses)
- Long-sleeved, knee-length lab coat (provided for you during the lab)
- Clothing that fully covers you down to and including the ankle (your skin is a target for chemicals, so cover it all up! It is a good idea to keep a pair of long socks in your lab drawer)
- Closed-toe shoes with backs (perforated shoes or sandals are not allowed)

Loose clothing, jewelry, and unrestrained hair may pose additional risk and should be avoided. Based on the experiment or procedure, additional PPE such as gloves may be required. Laboratory gloves should only be worn inside the laboratory. Furthermore, the instructor or TA must always be physically present for you to work in the lab.

Grading

There are 11 weeks of activities in CHEM 124. Each is worth 50 pts (on average) for a total of 11*50 points = 550 pts.

So, a two-week lab will have assignments that add up to 100 pts and a one-week lab will have assignments that add up to 50 points. The specific assignments for a given week will vary depending on the lab topic. You will always be provided with a full point breakdown for each week on Canvas, so check there regularly. There will be some small opportunities for extra credit near the end of the semester.

There are a total of 550 pts available in CHEM 124. At the end of the semester, your percentage out of 550 will count as 25% of your combined grade for CHEM 122/124. Consider the example below:

Student X scored 523/550 points in CHEM 124 and 644/750 points in CHEM 122 at the end of the semester.

Step 1: Calculate percentage of CHEM 124 points 523/550*100% = 95.1%

Step 2: Calculate percentage of CHEM 122 points 644/750*100% = 85.9%

Step 3: Weight the percentages (25% for CHEM 124 and 75% for CHEM 122) and add them together: (95.1%*0.25) + (85.9%*0.75) = 23.8% + 64.4% = 88.2%

Step 4: Convert to letter grade (approximate letter grade cut-offs are provided in the CHEM 122 syllabus). This letter grade is what will be recorded on your transcript for BOTH CHEM 122 and CHEM 124.

Regrades

If you think you were graded incorrectly, you may submit your assignment for a regrade. Submit all regrade requests through Gradescope (except for lab notes which can be brought in person to Dr. Kobylianskii). Do NOT submit a regrade request to your TA, and do NOT submit a regrade request via email. You have one week after an assignment is returned to you to submit a regrade request.

Honor Policy

Assignments and Lab Reports fall under the scope of Rice's honor code. Discussion is an important part of the scientific process, and you are encouraged to discuss the lab with your TAs, and classmates. However, you must write your own report and assignment responses. Be mindful of the difference between collaboration and copying. Students must individually do their own work, including all calculations, conclusions, and graphs. For reference, here are some *limited* examples of what is and isn't okay:

It's okay to:

- Share raw data with your lab partner
- Consult any written source except graded lab reports and keys (always cite any source used)
- Discuss the approach to analyzing data or solving a problem
- Discuss and compare your final results.
- Ask your TA for help

It's NOT okay to:

- Report data that you did not measure (unless given permission, and cited appropriately)
- Copy or share computer files, even with your lab partner (except for data files)
- Copy graphs, or print 2 copies of the same graph
- Copy someone else's calculations
- Copy answers to problems in the assignments
- Use an answer key to help with assignments/reports

Students Under 18

Your parents or legal guardian are required to sign a "Release and Hold Harmless Agreement" before you can work in the lab. Download this form from Canvas and email a completed and signed copy to Anita Walker. Contact Ms. Walker with any questions. (Ms. Anita Walker, DBH 243, aawalker@rice.edu)

Disability-Related Needs

If you have a documented disability that may affect academic performance, you should:

1) make sure this documentation is on file with Disability Resource Center (Allen Center, Room 111 / adarice@rice.edu / x5841) to determine the accommodations you need; and

2) contact Dr. Kobylianskii during the first two weeks of classes to discuss your accommodation needs.

This course welcomes students who require a physical accommodation to perform laboratory work, but they need to contact Dr. Kobylianskii prior to their first lab in order to make sure that all safety standards can be met. All discussions will remain confidential.

Policy on Harassment and Sexual Harassment

Rice University cares about your wellbeing and safety. Rice encourages any student who has experienced an incident of harassment, pregnancy discrimination or gender discrimination or relationship, sexual, or other forms interpersonal violence to seek support through The SAFE Office. Students should be aware when seeking support on campus that most employees as the instructor/TA, are required by Title IX to disclose all incidents of non-consensual interpersonal behaviors to Title IX professionals on campus who can act to support that student and meet their needs. For more information, please visit safe.rice.edu or email titleixsupport@rice.edu.

Education Research

This semester the instructors will be conducting a study looking at various aspects of teaching and learning. The purpose of this study is to determine factors that influence teaching effectiveness and learning. Your participation in this study will last for the duration of the current semester and will entail activities no different from the regular activities you would otherwise engage in as part of the course. Please contact the course instructors if you would like more information or if you would like to opt out of the study.

*The information in this syllabus may be revised by the instructor throughout the semester. You will be informed or any changes and the most up-to-date syllabus will always be posted on Canvas.