

# General Chemistry Lab



## Chem 3CL General Chemistry Lab

Dr. Peter Weiss and TAs Sophia Tallcott and Tanya D'Souza

Summer Session II 2024

July 30 - August 30, 2024

Tuesdays and Thursdays 9:00 am - 4:30 pm


Natural Sciences II Building, Rooms 273 and 283

Office hours:

Sophia Tallcott, Tuesdays and Wednesdays, 12:30 pm -1:30 pm, Physical Science Building Room 209

## Data For The InLabs

Follow these Links

[Lab 03 calorimetry data tables \(2\).pdf \(https://canvas.ucsc.edu/courses/74977/files/9431886?wrap=1\)](https://canvas.ucsc.edu/courses/74977/files/9431886?wrap=1)   
([https://canvas.ucsc.edu/courses/74977/files/9431886/download?download\\_frd=1](https://canvas.ucsc.edu/courses/74977/files/9431886/download?download_frd=1))

[Sample data for Lab 02.pdf \(https://canvas.ucsc.edu/courses/74977/files/9447144?wrap=1\)](https://canvas.ucsc.edu/courses/74977/files/9447144?wrap=1)   
([https://canvas.ucsc.edu/courses/74977/files/9447144/download?download\\_frd=1](https://canvas.ucsc.edu/courses/74977/files/9447144/download?download_frd=1))

## COURSE INFORMATION

Welcome to Chem 3CL. This course, which focuses on science skills building with an emphasis on the general chemistry lab setting, provides an introduction to important concepts and practices related to lab safety, fundamental experimental techniques, chemical handling, waste disposal, data collection/analysis, scientific writing/communication, and small-group collaboration.

All Labs are done through a platform called WebAssign. To get started in WebAssign, click the link in Modules called "[Webassign General CHEM Labs 1 Term Webassign \(https://canvas.ucsc.edu/courses/74977/modules/182302\)](https://canvas.ucsc.edu/courses/74977/modules/182302)".

## INSTRUCTOR INFORMATION

I'm Dr. Peter Weiss, instructor of record for the course. Please use email to contact me at [pweiss@ucsc.edu](mailto:pweiss@ucsc.edu) (<mailto:randaro@ucsc.edu>). Please don't hesitate to reach out to the teaching team

for help. It is our foremost goal to create a safe, effective, and rewarding lab experience for you that prepares you for your further studies in STEM.

Your TA is your primary contact. The TAs for the lab are Sophia Tallcott [stallcot@ucsc.edu](mailto:stallcot@ucsc.edu) (<mailto:stallcott@ucsc.edu>) and Tanya D'Souza [taedsouz@ucsc.edu](mailto:taedsouz@ucsc.edu) (<mailto:taedsouz@ucsc.edu>).

## LEARNING OUTCOMES

- This course will provide opportunities to learn and develop many skills central to STEM, some of which are listed below:
- Conduct an investigation individually and collaboratively following proper lab technique (e.g., correctly handling chemicals, using equipment, disposing of waste, etc.); assess safety considerations and obey safety rules.
- Assess the type, quantity, and accuracy of data needed to produce reliable measurements.
- Collect data, generate and evaluate results, analyze limitations and sources of error, and communicate outcomes.
- Apply mathematical techniques to calculate results based on data, including unit conversions in complex measurement problems with quantities having derived or compound units (e.g., mg/mL, kg/m<sup>3</sup>, etc.).
- Consider limitations on the precision of the data (e.g., number of trials, risk, time, equipment).
- Use statistical treatments, such as error propagation, to correctly represent the precision associated with derived results.
- Compare and contrast various procedures and data sets to examine consistency, precision, and accuracy of measurements and observations.
- Apply concepts of statistics and probability (such as linear fits using slope and intercept values) to find relationships between dependent and independent variables, using digital tools when feasible.
- Consider limitations of data analysis (e.g., measurement error, sample selection) when analyzing and interpreting data, when reporting results, and when discussing experimental assumptions and claims.
- Based on results, suggest changes to the procedure or its components in order to optimize precision and accuracy, keeping in mind what can be investigated within the scope of the laboratory with available resources.
- Apply scientific ideas, principles, and/or evidence to provide an explanation of observations and results, taking into account possible unanticipated effects and sources of experimental error.
- Communicate information, results, claims, and analysis (e.g., about the procedure in relation to the data and results) in multiple formats (e.g., orally, graphically, textually, mathematically).

## PREREQUISITES/COREQUISITES

*Prior enrollment in Chem 3A and 3B is recommended, as is prior or concurrent enrollment in Chem 3C. Algebra skills are needed.*

## REQUIRED MATERIALS, TEXTBOOKS AND TECHNOLOGY

Purchased access to online lab materials and assignments through WebAssign ISBN 978-1-92-855080-8 General Chemistry Labs CHEM 1M and 1N; please access WebAssign through Canvas using the link on the left. Please make sure your correct student ID is associated with your account. The eBook is the lab manual we will use in this course.

A scientific calculator and access to Excel (downloadable with @ucsc.edu credentials) or Google Sheets are needed.

A lab notebook that makes duplicate copies (available in the bookstore or online).

## COMMUNICATION

*Office hours Instructor: T and Th 11:00 am - noon in PSB 454.*

*Office hours TA Sophia: W and Th 12:30-1:30 pm in PSB 209.*

*Please use the Ask Your Teacher button on WebAssign about questions regarding the labs. Email works too but might be slower on the response.*

## ASSIGNMENTS & ASSESSMENT

- Prelab assignments, which include question on WebAssign plus written procedure and data tables (WPDT) in your lab notebook. A complete description is available in the eBook on WebAssign. You will turn in the duplicate copies (please make sure they are readable) of your WPDT.
- Webassign Inlabs, points vary per assignment. 10 submissions per answer box, no deductions.
- Scientific writing and communication assignments, submitted in Canvas, 10 points each. A complete description and rubric are available in Canvas.
- Preparation, participation, technique and collaboration in lab, see the table for the % each count toward your final grade.
- Some assignments may take a little longer to complete. I recommend using section time to work together on calculations and discussion. "If it's taking you much longer to do this work than what seems reasonable, please talk to your TA or to me. It may be that there's some misunderstanding between us about the assignment. Talk to us and let's "figure it out!"

## STUDENT HOURS FOR CLASS

This is a 2-unit lab course. In addition to the two-hour twice a week lab section, you should plan to spend approximately 8 additional hours per week on homework. This may vary person-to-person. Please do not hesitate to contact us for help if you need it.

## GRADING POLICY

\*Because lab is a hands-on experience where you get the opportunity to link experiment with concepts and calculations, please attend all lab sections and turn in all assignments fully complete to pass the course. Your assignments should also contain reasonable values; up to 50% may be deducted if not.

Please do not hesitate to ask questions. It's very important to keep up in a 5-week course. Generally, a minimum of 10% off per day late is applied, and you must complete all assignments. We review all reasons for late work on a case-by-case basis. We want you to succeed!

## Grading (subject to updates)

Pre-lab assignments (WebAssign)	15%
Written prelabs/procedures + data tables (lab notebook)	15%
Inlabs (WebAssign)	50%
Scientific writing/literature research (Canvas)	10%
In-section participation, collaboration, technique, scholarship, etc. + videos (Canvas)	10%

Please know that it is your responsibility to keep track of due dates and times.

## Attendance:

We require that you attend the section in which you are officially enrolled.\* Please arrive on time ready to participate fully in the lab section in the correct attire with your assignments for that class meeting completed.

\*If you get into the course after the first section meets, please contact your TA so that you are ready for the next section meeting.

## Absences:

Please do not miss a section.\* Due to safety, space, and capacity constraints, we cannot guarantee a make-up opportunity (e.g., we cannot keep equipment/reagents/etc. available).

\*If you must be absent, you must notify us (the instructor and your TA) in advance. Deductions may apply. All absences will be reviewed on a case-by-case basis. If you do not contact the instructor and TA in a timely manner, you may not be able to complete the assignments. This can result in a non-passing course grade.

\*Please do not attend if you are sick. Please email the instructor and your TA for accommodations.

## Late Penalties:

There is a penalty for late work and it is the students' responsibility to keep track of the due dates.

## TA/INSTRUCTOR FEEDBACK

Webassign grades some of the work you submit through that platform; your TA assesses the portions of your inlab that involve free-response discussion. Your TA will also score your written prelabs and your scientific writing (abstracts). There are guidelines and rubrics available in Canvas for assignments such as your prelab and your abstracts, and each week in section you will have an opportunity to review your past and present work with your TA and classmates.

## STUDENT FEEDBACK

Please do not hesitate to send us feedback about your experience. Please try to include constructive suggestions to help us address your comments. Here is [CITL's Guide to Giving Useful Feedback to Instructors and TAs \(https://citl.ucsc.edu/wp-content/uploads/2019/02/Giving-Useful-Feedback-to-Your-Instructors-and-TAs\\_optimized.pdf\)](https://citl.ucsc.edu/wp-content/uploads/2019/02/Giving-Useful-Feedback-to-Your-Instructors-and-TAs_optimized.pdf)

At the end of the quarter you will be asked to complete a Student Experience of Teaching survey for this course. SETs provide an opportunity for you to give valuable feedback on your learning that is honest and constructive. This anonymous feedback will help us consider modifications to the course that will help future students learn more effectively.

## COURSE SCHEDULE

Week	Lab Dates	Exp #	Reading and Activities
1	7/30	0	Course requirements; safety; locker assignments and equipment review; WebAssign; data collection, significant figures, error propagation; activity
1	8/1	3	Determination of Enthalpy of Fusion, Heat Capacities of Metals, and Enthalpies of Reaction
2	8/6	2	Empirical Formula of Magnesium Oxide
2	8/8	15	Thermodynamics
3	8/13	17	Determination of $K$ by Absorption Spectroscopy

3	8/15	13	Electrochemistry and The Nernst Equation
4	8/20	14	Determination of Ascorbic Acid Concentration by Redox Titration
4	8/22	7	Determination of Molar Mass by Freezing Point

Please complete each WebAssign **prelab assignment** before plus write out your WPDT in your lab notebook (makes duplicate copies). See the WebAssign eBook for a description and instructions. You should be able to perform the experiment safely and efficiently based on your prelab and your WPDT.

You should be prepared to carry out all parts of the procedure; however, in lab you may be informed of modifications to the procedure. You may also be assigned to work in a small group. For collaboration to be successful, it is important that you take responsibility for yourself and for your team members. You must make sure that everyone in your group has complete and correct data before leaving the lab room.

Please complete the **online inlab assignments in WebAssign** by the specified due date/time. This assignment includes data, data analysis, results, and brief concept assessment questions. Significant figures are graded. Your TA will grade the free-response questions after the assignment closes.

*Incomplete assignments will result in at least 50% off of the assignment. If values are nonsensical and/or incorrect (and it is not due to experimental issues), you will lose at least 50% of the points.* You have **10 submissions in WebAssign**, no deductions.

**Scientific writing and literature research** are important components of lab science. Your TA will cover the details of your writing/research assignments with you. Submissions will be in Canvas.

## ACADEMIC INTEGRITY

All members of the UCSC community benefit from an environment of trust, honesty, fairness, respect, and responsibility. You are expected to present your own work and acknowledge the work of others in order to preserve the integrity of scholarship.

Academic integrity includes:

- Following class rules
- Using only permitted materials and resources
- Viewing course materials only when permitted by your instructor
- Incorporating proper citation of all sources of information
- Submitting your own original work

Academic misconduct includes, but is not limited to, the following:

- Accessing course materials without permission
- Copying/purchasing any material from another student, or from another source, that is submitted for grading as your own
- Plagiarism, including use of Internet material without proper citation
- Using cell phones or other electronics to obtain outside information without explicit permission from the instructor
- Submitting your own work in one class that was completed for another class (self-plagiarism) without prior permission from the instructor.
- Violations of the Academic Integrity policy can result in dismissal from the university and a permanent notation on a student's transcript. For the full policy and disciplinary procedures on academic dishonesty, students and instructors should refer to the [Academic Misconduct page \(https://www.ue.ucsc.edu/academic\\_misconduct\)](https://www.ue.ucsc.edu/academic_misconduct) at the [Division of Undergraduate Education \(https://ue.ucsc.edu/\)](https://ue.ucsc.edu/).

## ACCESSIBILITY

UC Santa Cruz is committed to creating an academic environment that supports its diverse student body. If you are a student with a disability who requires accommodations to achieve equal access in this course, please submit your Accommodation Authorization Letter from the Disability Resource Center (DRC) to me privately during my office hours or by email, preferably within the first two weeks of the quarter. At this time, I would like us to discuss ways we can ensure your full participation in the course. I encourage all students who may benefit from learning more about DRC services to contact the DRC by phone at 831-459-2089 or by email at [drc@ucsc.edu \(mailto:drc@ucsc.edu\)](mailto:drc@ucsc.edu).

### **Service animals:**

Please notify us as soon as possible if you have a service animal who will be coming to lab with you. Please include details (e.g., species, breed/size, physical proximity needs, etc.). We want to keep you and your companion safe.

## RELIGIOUS ACCOMMODATION

UC Santa Cruz welcomes diversity of religious beliefs and practices, recognizing the contributions differing experiences and viewpoints can bring to the community. There may be times when an academic requirement conflicts with religious observances and practices. If that happens, students may request the reasonable accommodation for religious practices. The instructor will review the situation in an effort to provide a reasonable accommodation without penalty. You should first discuss the conflict and your requested accommodation with your instructor early in the term. You or your instructor may also seek assistance from the [Dean of Students office \(https://deanofstudents.ucsc.edu/\)](https://deanofstudents.ucsc.edu/).

## PRINCIPLES OF COMMUNITY

*Instructors may want to involve students in the preparation of principles of community for your course. This allows students to be partners in deciding what guidelines you will collectively follow to ensure free, open, and respectful discussions. A sample of such principles appears below:*

The University of California, Santa Cruz expressly prohibits students from engaging in conduct constituting unlawful discrimination, harassment or bias... [More here \(https://reporhate.ucsc.edu/principles-and-policies/index.html\)](https://reporhate.ucsc.edu/principles-and-policies/index.html). I am committed to providing an atmosphere for learning that respects diversity and supports inclusivity. We need to work together to build this community of learning. I ask all members of this class to:

- be open to and interested in the views of others
- consider the possibility that your views may change over the course of the term
- be aware that this course asks you to reconsider some “common sense” notions you may hold
- honor the unique life experiences of your colleagues
- appreciate the opportunity that we have to learn from each other
- listen to each other’s opinions and communicate in a respectful manner
- keep confidential discussions that the community has of a personal (or professional) nature
- ground your comments in the texts we are studying. Refer frequently to the texts and make them the focus of your questions, comments, and arguments. This is the single most effective way to ensure respectful discussion and to create a space where we are all learning together.

## TITLE IX/CARE ADVISORY

*This statement was created in collaboration with the UC Santa Cruz Title IX Office and leadership at CARE.*

UC Santa Cruz is committed to providing a safe learning environment that is free of all forms of gender discrimination and sexual harassment, which are explicitly prohibited under Title IX. If you have experienced any form of sexual harassment, sexual assault, domestic violence, dating violence, or stalking, know that you are not alone. The Title IX Office, the Campus Advocacy, Resources & Education (CARE) office, and Counseling & Psychological Services (CAPS) are all resources that you can rely on for support.

Please be aware that if you tell me about a situation involving Title IX misconduct, I am required to share this information with the Title IX Coordinator. This reporting responsibility also applies to course TAs and tutors (as well to all UCSC employees who are not designated as “confidential” employees, which is a special designation granted to counselors and CARE advocates). Although I have to make that notification, you will control how your case will be handled, including whether or not you wish to pursue a



formal complaint. The goal is to make sure that you are aware of the range of options available to you and that you have access to the resources you need.

Confidential resources are available through [\(https://care.ucsc.edu/\)](https://care.ucsc.edu/) **CARE** [\(https://care.ucsc.edu/\)](https://care.ucsc.edu/). Confidentiality means CARE advocates will not share any information with Title IX, the police, parents, or anyone else without explicit permission. CARE advocates are trained to support you in understanding your rights and options, accessing health and counseling services, providing academic and housing accommodations, helping with legal protective orders, and more. You can contact CARE at (831) 502-2273 or [care@ucsc.edu](mailto:care@ucsc.edu).

In addition to CARE, these resources are available to you:

- If you need help figuring out what resources you or someone else might need, visit the [\(http://safe.ucsc.edu/\)](http://safe.ucsc.edu/) **Sexual Violence Prevention & Response (SAFE) website** [\(http://safe.ucsc.edu/\)](http://safe.ucsc.edu/), which provides information and resources for different situations.
- **Counseling & Psychological Services (CAPS)** [\(https://caps.ucsc.edu/\)](https://caps.ucsc.edu/) can provide confidential counseling support. Call them at (831) 459-2628.
- You can also report gender discrimination and sexual harassment and violence directly to the University's [\(https://titleix.ucsc.edu/\)](https://titleix.ucsc.edu/) **Title IX Office** [\(https://titleix.ucsc.edu/\)](https://titleix.ucsc.edu/), by calling (831) 459-2462 or by using their [\\_ \(https://titleix.ucsc.edu/about/staff-contact-us.html\)](https://titleix.ucsc.edu/about/staff-contact-us.html) **online reporting tool** [\\_ \(https://titleix.ucsc.edu/about/staff-contact-us.html\)](https://titleix.ucsc.edu/about/staff-contact-us.html).
- Reports to law enforcement can be made to the UC Police Department, (831) 459-2231 ext. 1.
- For emergencies, call 911.

## DIFFICULT CONVERSATIONS

In our in-class and online discussions and dialogues, we may explore challenging, high-stakes scientific issues. We sometimes make mistakes in our speaking and our listening. We may need patience or courage or imagination or any number of qualities in combination. We always need respect for others. This effort will ultimately deepen our understanding and allow us to make the most of being in a community with people of many backgrounds, experiences, and positions.

## REPORT AN INCIDENT OF HATE OR BIAS

The University of California, Santa Cruz is committed to maintaining an objective, civil, diverse and supportive community, free of coercion, bias, hate, intimidation, dehumanization or exploitation. The Hate/Bias Response Team is a group of administrators who support and guide students seeking assistance in determining how to handle a bias incident involving another student, a staff member, or a faculty member. To report an incident of hate or bias, please use the following form: [Hate/Bias Report Form](https://ucsc-advocate.symplcity.com/care_report/index.php/pid596509?) [🔗 \(https://ucsc-advocate.symplcity.com/care\\_report/index.php/pid596509?\)](https://ucsc-advocate.symplcity.com/care_report/index.php/pid596509?).

# STUDENT SERVICES

## [Counseling and Psychological Services \(https://caps.ucsc.edu/\)](https://caps.ucsc.edu/)

Many students at UCSC face personal challenges or have psychological needs that may interfere with their academic progress, social development, or emotional wellbeing. The university offers a variety of confidential services to help you through difficult times, including individual and group counseling, crisis intervention, consultations, online chats, and mental health screenings. These services are provided by staff who welcome all students and embrace a philosophy respectful of clients' cultural and religious backgrounds, and sensitive to differences in race, ability, gender identity and sexual orientation.

## [Student Success and Engagement Hub \(https://studentsuccess.ucsc.edu/\)](https://studentsuccess.ucsc.edu/)

The Division of Student Success provides campus-wide coordination and leadership for student success programs and activities across departments, divisions, the colleges, and administrative units.

## [Tutoring \(https://lss.ucsc.edu/\)](https://lss.ucsc.edu/) and Learning Support

At Learning Support Services (LSS), undergraduate students build a strong foundation for success and cultivate a sense of belonging in our Community of Learners. LSS partners with faculty and staff to advance educational equity by designing inclusive learning environments in Modified Supplemental Instruction, Small Group Tutoring, and Writing Support. When students fully engage in our programs, they gain transformative experiences that empower them at the university and beyond.

## [Slug Support Program \(https://deanofstudents.ucsc.edu/slug-support/program/index.html\)](https://deanofstudents.ucsc.edu/slug-support/program/index.html)

College can be a challenging time for students and during times of stress it is not always easy to find the help you need. Slug Support can give help with everything from basic needs (housing, food, or financial insecurity) to getting the technology you need during remote instruction.

To get started with SLUG Support, please contact the [Dean of Students \(https://deanofstudents.ucsc.edu/about/index-aboutdos.html\)](https://deanofstudents.ucsc.edu/about/index-aboutdos.html) Office at 831-459-4446 or you may send us an email at [deanofstudents@ucsc.edu \(mailto:deanofstudents@ucsc.edu\)](mailto:deanofstudents@ucsc.edu).










## Slug Help/[Technology \(https://its.ucsc.edu/index.html\)](https://its.ucsc.edu/index.html)












The ITS Support Center is your single point of contact for all issues, problems or questions related to technology services and computing at UC Santa Cruz. To get technological help, simply email [help@ucsc.edu](mailto:help@ucsc.edu).


## On-Campus Emergency Contacts

Slug Help/[Emergency Services \(https://www.ucsc.edu/help/\)](https://www.ucsc.edu/help/). For all other help and support, including the health center and emergency services, start [here \(https://www.ucsc.edu/help/\)](https://www.ucsc.edu/help/). Always dial 9-1-1 in the case of an emergency.

## Course Summary:

Date	Details	Due
Thu Aug 1, 2024	 <a href="https://canvas.ucsc.edu/courses/74977/assignments/610684">WebAssign Exp3 Pre Lab Questions</a> ( <a href="https://canvas.ucsc.edu/courses/74977/assignments/610684">https://canvas.ucsc.edu/courses/74977/assignments/610684</a> )	due by 11:59pm
	 <a href="https://canvas.ucsc.edu/courses/74977/assignments/599812">WPDT Lab 3</a> ( <a href="https://canvas.ucsc.edu/courses/74977/assignments/599812">https://canvas.ucsc.edu/courses/74977/assignments/599812</a> )	due by 11:59pm
Tue Aug 6, 2024	 <a href="https://canvas.ucsc.edu/courses/74977/assignments/610686">WebAssign Exp2 Pre Lab Questions</a> ( <a href="https://canvas.ucsc.edu/courses/74977/assignments/610686">https://canvas.ucsc.edu/courses/74977/assignments/610686</a> )	due by 11:59pm
	 <a href="https://canvas.ucsc.edu/courses/74977/assignments/599813">WPDT Lab 2</a> ( <a href="https://canvas.ucsc.edu/courses/74977/assignments/599813">https://canvas.ucsc.edu/courses/74977/assignments/599813</a> )	due by 11:59pm
Thu Aug 8, 2024	 <a href="https://canvas.ucsc.edu/courses/74977/assignments/610685">WebAssign Exp3 In Lab Questions</a> ( <a href="https://canvas.ucsc.edu/courses/74977/assignments/610685">https://canvas.ucsc.edu/courses/74977/assignments/610685</a> )	due by 11:59pm
	 <a href="https://canvas.ucsc.edu/courses/74977/assignments/599814">WPDT Lab 15</a> ( <a href="https://canvas.ucsc.edu/courses/74977/assignments/599814">https://canvas.ucsc.edu/courses/74977/assignments/599814</a> )	due by 11:59pm
Tue Aug 13, 2024	 <a href="https://canvas.ucsc.edu/courses/74977/assignments/610687">WebAssign Exp2 In Lab Questions</a> ( <a href="https://canvas.ucsc.edu/courses/74977/assignments/610687">https://canvas.ucsc.edu/courses/74977/assignments/610687</a> )	due by 11:59pm
	 <a href="https://canvas.ucsc.edu/courses/74977/assignments/599815">WPDT Lab 17</a> ( <a href="https://canvas.ucsc.edu/courses/74977/assignments/599815">https://canvas.ucsc.edu/courses/74977/assignments/599815</a> )	due by 11:59pm
Thu Aug 15, 2024	 <a href="https://canvas.ucsc.edu/courses/74977/assignments/610690">WebAssign Exp 13 Pre Lab Questions</a> ( <a href="https://canvas.ucsc.edu/courses/74977/assignments/610690">https://canvas.ucsc.edu/courses/74977/assignments/610690</a> )	due by 11:59pm

Date	Details	Due
	 <a href="https://canvas.ucsc.edu/courses/74977/assignments/610688">WebAssign Exp15 In Lab Questions</a> <a href="https://canvas.ucsc.edu/courses/74977/assignments/610688">https://canvas.ucsc.edu/courses/74977/assignments/610688</a>	due by 11:59pm
	 <a href="https://canvas.ucsc.edu/courses/74977/assignments/599816">WPDT Lab 13</a> <a href="https://canvas.ucsc.edu/courses/74977/assignments/599816">https://canvas.ucsc.edu/courses/74977/assignments/599816</a>	due by 11:59pm
Fri Aug 16, 2024	 <a href="https://canvas.ucsc.edu/courses/74977/assignments/599820">Abstract Lab 15</a> <a href="https://canvas.ucsc.edu/courses/74977/assignments/599820">https://canvas.ucsc.edu/courses/74977/assignments/599820</a>	due by 11:59pm
	 <a href="https://canvas.ucsc.edu/courses/74977/assignments/610692">WebAssign Exp 14 Pre Lab Questions</a> <a href="https://canvas.ucsc.edu/courses/74977/assignments/610692">https://canvas.ucsc.edu/courses/74977/assignments/610692</a>	due by 11:59pm
Tue Aug 20, 2024	 <a href="https://canvas.ucsc.edu/courses/74977/assignments/610689">WebAssign Exp17 In Lab Questions</a> <a href="https://canvas.ucsc.edu/courses/74977/assignments/610689">https://canvas.ucsc.edu/courses/74977/assignments/610689</a>	due by 11:59pm
	 <a href="https://canvas.ucsc.edu/courses/74977/assignments/599817">WPDT Lab 14</a> <a href="https://canvas.ucsc.edu/courses/74977/assignments/599817">https://canvas.ucsc.edu/courses/74977/assignments/599817</a>	due by 11:59pm
	 <a href="https://canvas.ucsc.edu/courses/74977/assignments/610691">WebAssign Exp 13 In Lab Questions</a> <a href="https://canvas.ucsc.edu/courses/74977/assignments/610691">https://canvas.ucsc.edu/courses/74977/assignments/610691</a>	due by 11:59pm
Thu Aug 22, 2024	 <a href="https://canvas.ucsc.edu/courses/74977/assignments/610694">WebAssign Exp 7 Pre Lab Questions</a> <a href="https://canvas.ucsc.edu/courses/74977/assignments/610694">https://canvas.ucsc.edu/courses/74977/assignments/610694</a>	due by 11:59pm
	 <a href="https://canvas.ucsc.edu/courses/74977/assignments/599819">Safety and Scholarship</a> <a href="https://canvas.ucsc.edu/courses/74977/assignments/599819">https://canvas.ucsc.edu/courses/74977/assignments/599819</a>	due by 11:59pm
	 <a href="https://canvas.ucsc.edu/courses/74977/assignments/599818">WPDT Lab 7</a> <a href="https://canvas.ucsc.edu/courses/74977/assignments/599818">https://canvas.ucsc.edu/courses/74977/assignments/599818</a>	due by 11:59pm
Fri Aug 23, 2024	 <a href="https://canvas.ucsc.edu/courses/74977/assignments/599821">Abstract Lab 17</a> <a href="https://canvas.ucsc.edu/courses/74977/assignments/599821">https://canvas.ucsc.edu/courses/74977/assignments/599821</a>	due by 11:59pm
Tue Aug 27, 2024	 <a href="https://canvas.ucsc.edu/courses/74977/assignments/610693">WebAssign Exp 14 In Lab Questions</a> <a href="https://canvas.ucsc.edu/courses/74977/assignments/610693">https://canvas.ucsc.edu/courses/74977/assignments/610693</a>	due by 11:59pm

Date	Details	Due
Thu Aug 29, 2024	 <a href="#">WebAssign Exp 7 In Lab Questions</a> <a href="https://canvas.ucsc.edu/courses/74977/assignments/610695">https://canvas.ucsc.edu/courses/74977/assignments/610695</a>	due by 11:59pm