

# GENERAL CHEMISTRY LAB II SYLLABUS

## CHEM 1106 UTEP

### FALL 2024

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Instructors of Record:

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#### COURSE DESCRIPTION

UTEP CHEM 1106 is the second semester General chemistry laboratory. This course provides a continuation of the study of the fundamental principles and laws of chemistry. These concepts include but are not limited to polarity, colligative properties, spectrophotometry, quantitative aspects of chemical kinetics, equilibrium, acids and bases, thermodynamics, electrochemistry and quantitative analysis.

The objectives of this course are as follows:

- Anticipating, recognizing, and responding properly to hazards in laboratory procedures and managing chemical wastes.
- Using appropriate personal protective equipment to avoid unwanted exposure to chemicals.
- Determine the order of a chemical reaction.
- Perform equilibrium constant calculations for chemical reactions.
- Construct pH titration curves for the titration of both monoprotic and polyprotic acids.
- Apply Le Chatelier's Principle to chemical systems at equilibrium.
- Calculate the equilibrium constant based on thermodynamic data.
- Calculate the molar mass of an unknown substance based on the colligative properties.

## REQUIRED MATERIAL

- General Chemistry Lab Manual 1105/1106  
ISBN 978-1-5339-4524-2 (Available at UTEP Bookstore)
- Chemical Splash goggles and Lab coat.
- Scientific calculator.
- A webcam and microphone are required. Webcam and mic can be built into your computer or can plug in to your computer with a USB cable.
- Access to Labster simulations: On Blackboard, open the "Safety" folder, scroll down and click the Labster link to launch a simulation. By doing so, you will be requested to purchase access from the pop-up window.



### Lab Safety

#### Learning objectives

At the end of this simulation, you will be able to:

- Use the correct clothing to work in the lab
- Describe the do's and don'ts in a laboratory
- Correctly use the lab safety equipment
- React in an emergency situation

#### Lab techniques

- Lab Safety

0/3 0% 0%



You can choose to pay by credit card or enter the voucher code that you purchased from UTEP bookstore.

## USE OF RESPONDUS LOCKDOWN BROWSER

This course requires the use of LockDown Browser and Monitor for online exams to ensure fairness in testing. You will be required to show an approved picture ID to verify your identity and you will be recorded as you take your exam to ensure you are following testing requirements and procedures.

- A webcam and microphone are required. Webcam and mic can be built into your computer or can plug in to your computer with a USB cable. Respondus software doesn't allow you to turn off the microphone, any sounds in your environment will be recorded. Avoid talking to yourself or aloud.
- Dress code while taking an exam: Please wear proper attire while taking an exam as you will be recorded. Dress as you will be dressed when attending school.
- You must be alone in the room or area where you are taking the exam.
- Don't use earpods or headphones while taking the exam.
- During the environment check please make sure I can see the desk, your formula packet, calculator, and the immediate area to your desk and chair.
- Your images and videos will remain secure on the Respondus server and will be seen only by me, your instructor. If the image/video shows evidence of cheating, it will be submitted to the dean for disciplinary action.
- Respondus flags suspicious behavior and calculates face detection time while you take your exam and allows me to view the data in Blackboard.
- Allowed materials when taking an exam: Formula packet and calculator are allowed when taking an exam, please show these items to the camera.
- LockDown Browser must be downloaded to your computer or device before testing. You will only have to download it once. The app is also available for iPad; download from the App Store.
- Failure to comply with guidelines, expectations, and procedures will result in a zero (0) on the exam.
- Once you take the exam, the grade will be displayed on the screen; however, this grade is pending until I review the recorded videos. I will post your grade within 3 days after you take the exam.

## SAFETY

Chemistry laboratories can be hazardous if the rules are not followed. Most accidents that occur in the chemistry laboratory are a result of carelessness, impatience, unauthorized experimentation, and disregard for safety rules.

### Laboratory Apparel

- **Splash goggles are required in the laboratory AT ALL TIMES!** Splash hazards are perhaps the most significant danger present in the lab, and eyes are extremely sensitive.
- Laboratory coats must be donned at all times.
- Leggings, sandals, open-toed shoes and high heels are not permitted in the lab.
- Shorts are not permitted in the lab, long pants and long sleeves are mandatory. Your clothing will be your protection from direct exposure of the skin to chemical splash.
- Long hair is to be constrained. Long hair is subject to fire and contact with chemicals.
- No iPod neither cell phone will be permitted in the laboratory at any time.

### Safety Equipment

- Identify all of the laboratory safety equipment and their location: the fire extinguisher, the emergency eyewash stations, the fire blankets, and the safety shower.
- Safety Data Sheets (SDS's) are available to you on request only.

## ATTENDANCE

**Attendance is mandatory.** You are expected to be on-time and ready for lab at the beginning of each lab period.

**If you miss an experiment, there will be no make-ups available,** if you have an emergency (you need to show proof) or a university-sanctioned event, contact your instructor of record.

## LAB RULES

**Each experiment consists of three assignments to complete:** pre-lab, hands-on lab, and Labster simulation.

If for any reason you cannot locate an assignment, please contact your TA or instructor before that assignment is due.

Note that **emails sent after the assignment deadline**, related to the "assignment not found" issue **will not be considered**.

Please note **that make-up labs are not permitted**. However, if your absence is due to a medical, military, or UTEP-related event, your lab report can be excused. You may upload a justification letter to the "Documents for Absence" link located in the folder for that week's experiment. If your lab report is excused, keep in mind that you are still required completing the prelab and Labster simulation assignments for that experiment.

There is **extra credit** opportunity, three Labster simulations, each worth 5 points, located on blackboard inside the folder called "Extra assignments".

- Upon entering the laboratory, students must be appropriately dressed, including a lab coat, closed-toe shoes, long pants (not ripped), and splash goggles.
- **Any student wearing Leggings, Shorts, Capri Pants, Short Pants, sandals, flip-flops, or open-toed shoes will not be allowed to participate in the experiment and will receive a zero in the lab report.**
- **Leggings are not allowed because are made from synthetic fibers, which may react with chemicals or are easy to catch on fire.**
- Once everyone is admitted into the lab, the TA will give a presentation to inform students about lab procedure, materials and safety hazards.
- All lab reports are due at the end of the lab period unless otherwise specified. Data sheet or spreadsheets are to be complete in the lab, following the instructions provided during the lab period.
- The student is responsible for cleaning the workspace and any assigned lab areas before leaving the lab.
- Failure to follow the Lab rules will affect student grade.

## PRE-LABS AND LAB REPORTS

Pre-Lab preparation is the key to success, and the student must understand laboratory experiments thoroughly before starting the chemical experiments.

The experiments will be shown in videos on the Blackboard platform, presenting details on how the experiments have to be conducted.

Embedded in the videos are some questions that need to be answered, those questions are aimed at understanding the laboratory procedure and will be graded.

Lab reports will reflect precision and detailed observation concluding the assigned experiments; there may be additional questions to be answered at the end of the report form.

If the student doesn't complete the prelab or lab report, the student will get a zero in those assignments.

## LABSTER SIMULATIONS

Labster is a platform for virtual labs and science simulations.

Students will apply knowledge gained in hands-on labs to solve a real-world problem within the context of a story. Within the 3D environment of an immersive simulation, students master theory aligned with the curriculum, interact with advanced equipment, learn techniques, and conduct experiments.

The Labster simulations will reinforce and **complement** the concepts learned in the hands-on lab.

A missed simulation can be recovered by completing a reduced grade simulation with a score of 70% (7 points). These reduced-grade simulations will be open as soon as the full grade simulation is closed, and will remain open for a couple of days.

Please note that for last week's simulations, the deadline to complete the reduced-grade simulation is the same day that the final exam closes.

## EXTRA ASSIGNMENTS

Extra assignments are an opportunity to earn some points during the semester. They are designed for students who missed an assignment for any reason, or for those who want to improve their grade. The E.As are open to all students.

The E.As are some Labster simulations, worth 5 points each. E.As are located in the "Extra assignments" folder on Blackboard.

## FINAL EXAM

The final exam will cover the concepts learned in the laboratory and will consist of multiple choice questions and questions based on calculations.





The final exam will be deployed the last week of classes, and it will last one hour. You are required to take the exam using Respondus LockDown Browser.

## COURSE EVALUATION

The final grade is based on a points system: as described in the table below.

Your lab report grade encompasses many factors. Your TA or instructor can deduct points if you appear poorly prepared, do not follow instructions, do not comport yourself well in class, fail to follow safety requirements (such as failing to wear splash goggles), or fail to clean up your work area.

The percentage of points you get out of the possible 420 points will determine your final grade for the lab.

Assessment Items	Points	Due Date
10 Labster simulations 	10 points each = 100	Week of the experiment on Sunday at 11:59 P.M.
9 Pre-Labs 	10 points each= 90	Online Pre labs are due the day before the hands-on lab at 11:59 P.M.  Late pre-labs are NOT accepted.
9 Lab reports 	20 points each= 180	Lab reports must be completed and submitted before the lab session ends.  Make-up labs are NOT allowed.
Final exam 	20 points	Final exam is online on Blackboard platform.
Syllabus quiz	20 points	<b>After the welcome session</b>
Laboratory Rules and Procedural Agreement	10 points	<b>After the welcome session</b>
TOTAL POINTS	420	Grades will be calculated according to the points obtained during the term.

Final Grade	Points	% Required
A	378-420	90%-100%
B	336-377	80%-89%
C	294-335	70%-79%
D	252-293	60%-69%
F	<251	<59%



## ACADEMIC DISHONESTY

The expectation for all students in this course is that complete integrity will be always demonstrated.

UTEP rules will be strictly enforced, academic dishonesty including but not limited to cheating, plagiarism, data falsification will not be tolerated. Minor incidences will result in a score of zero for the lab period and recurrence will result in the failure of the course.

Please review the UTEP Academic Integrity Policy in the following link <https://www.utep.edu/hoop/section-2/student-conduct-and-discipline.html>

## DISABILITY ACCOMODATIONS

The University is committed to providing reasonable accommodations and auxiliary services to students, staff, faculty, job applicants, applicants for admissions, and other beneficiaries of University programs, services and activities with documented disabilities in order to provide them with equal opportunities to participate in programs, services, and activities in compliance with sections 503 and 504 of the Rehabilitation Act of 1973, as amended, and the Americans with Disabilities Act (ADA) of 1990 and the Americans with Disabilities Act Amendments Act (ADAAA) of 2008.

Reasonable accommodations will be made unless it is determined that doing so would cause undue hardship on the University. Students requesting an accommodation based on a disability must register with the [UTEP Center for Accommodations and Support Services](#) (CASS). Contact the Center for Accommodations and Support Services at 915-747-5148, or email them at [cass@utep.edu](mailto:cass@utep.edu), or apply for accommodations online via the [CASS portal](#).

## COVID-19 CONTINGENCY

In case of illness, please immediately notify your instructor of record to make arrangements, so you can complete the missed lab work. Please attach the Covid-19 test documentation in the email you will send.

The instructions are in this link

[COVID manifesto.pdf](#)

## SCHEDULE OF EXPERIMENTS

Week	Experiment
Aug 26-30	No Labs
Sept 2-6	No Labs in observance of Labor Day
Sept 9-13	Welcome Session
Sept 16-20	Experiment 10 Polarity
Sept 23-27	Experiment 11 Determination of Molar mass
Sept 30 -Oct 4	Experiment 12 Reaction of Crystal violet: A kinetic study
Oct 7-11	No Labs to regularize with the lecture
Oct 14-18	Experiment 13 Determining Equilibrium constant
Oct 21-25	Experiment 14 Le Chatelier's Principal
Oct 28- Nov 1	Experiment 15 The solubility Product constant
Nov 4-8	Experiment 16 Acid-Base Titration curves
Nov 11-15	Experiment 17 Electrochemical Cells
Nov 18-22	Experiment 18 Qualitative Analysis
Nov 25-29	No Labs in observance of Thanksgiving
Dec 2-5	Final Exam on Blackboard

## DEADLINE FOR ASSIGNMENTS

Week	Experiment	Prelab	Lab Report	LABSTER SIMULATION
Sept 9-13	Welcome Session	N/A	N/A	"Lab Safety" Sunday Sept 15 at 11:59 PM
Sept 16-20	Experiment 10 Polarity	The day before the experiment at 11:59 PM	At the end of the experiment before leaving the room.	"Thin Layer Chromatography" Sunday Sept 22 at 11:59 PM
Sept 23-27	Experiment 11 Determination of Molar mass	The day before the experiment at 11:59 PM	At the end of the experiment before leaving the room.	"Melting Point" Sunday Sept 29 at 11:59 PM
Sept 30 -Oct 4	Experiment 12 Reaction of Crystal violet: A kinetic study	The day before the experiment at 11:59 PM	At the end of the experiment before leaving the room.	"Reaction Kinetics: The essentials" Sunday Oct 6 at 11:59 PM
Oct 14-18	Experiment 13 Determining Equilibrium constant	The day before the experiment at 11:59 PM	At the end of the experiment before leaving the room.	"Spectrophotometry: Beer-Lambert law" Sunday Oct 20 at 11:59 PM
Oct 21-25	Experiment 14 Le Chatelier's Principal	The day before the experiment at 11:59 PM	At the end of the experiment before leaving the room.	"Equilibrium" Sunday Oct 27 at 11:59 PM
Oct 28- Nov 1	Experiment 15 The solubility Product constant	The day before the experiment at 11:59 PM	At the end of the experiment before leaving the room.	"Acids and Bases-Principles" Sunday Nov 3 at 11:59 PM
Nov 4-8	Experiment 16 Acid-Base Titration curves	The day before the experiment at 11:59 PM	At the end of the experiment before leaving the room.	"Advanced Acids and Bases" Sunday Nov 10 at 11:59 PM
Nov 11-15	Experiment 17 Electrochemical Cells	The day before the experiment at 11:59 PM	At the end of the experiment before leaving the room.	"Redox Reactions Simulation" Sunday Nov 17 at 11:59 PM
Nov 18-22	Experiment 18 Qualitative Analysis	The day before the experiment at 11:59 PM	At the end of the experiment before leaving the room.	"Double replacement reactions" Sunday Nov 24 at 11:59 PM
Dec 2- 5	Final Exam	N/A	N/A	N/A

