

GENERAL CHEMISTRY LAB I SYLLABUS CHEM 1105 UTEP



SPRING 2022

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COURSE DESCRIPTION

UTEP CHEM 1105 is the first semester General chemistry laboratory. The overall goal of this course is to give an introduction to general chemistry focused on understanding the concepts within the labs and the scientific method. These concepts include but are not limited to: components of matter, stoichiometry, chemical reactions and bonding, thermochemistry, gases, pH and solutions.

The objectives of this course are as follows:

- Students will master chemical principles and experimental methods investigating the properties and reactions of chemical substances.
- Perform calculations that relate atoms, molecules, moles, and mass.
- Convert quantities in related units and systems of measurement.
- Calculate solution concentrations and perform dilution calculations.
- Balance chemical reactions and use the balanced reactions to calculate reaction yields.
- Identify and classify precipitation and acid-base reactions.
- Use the ideal gas law to calculate the properties of gases.
- Create and analyze Excel-based graphs of experimental data.

REQUIRED MATERIAL

- General Chemistry Lab Manual 1105/1106
ISBN 978-1-5339-2706-4 (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.

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.
- 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 me at hpdelcastil@utep.edu.

LAB RULES

- Upon entry to the lab, students must be properly attired, including splash goggles.
- 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 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 are available on Blackboard platform.

The missed simulations cannot be make up.

FINAL EXAM

The final exam will cover the concepts learned in the laboratory and will consist of short answer 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: 8 Labster simulations (10 pts each), 9 prelabs (10 pts each), 10 lab reports (20 pts each), Final Exam (20 pts) and Safety etiquette (20 pts), making a total of 410 points.

The percentage of points you get out of the possible 410 points will determine your final grade for the lab. **If the total number of points you have obtained during the semester is greater than or equal to 369 points, you are exempted from the final exam**

Assessment Items	Points	Due Date
8 Labster simulations	10 points each = 80	Week of the experiment on Sunday at 11:59 P.M. No make-up simulations are allowed.
9 Pre-Labs	10 points each= 90	Online Pre labs are due the day before the hands-on lab at 11:59 P.M. No late pre-labs will be accepted.
10 Lab reports	20 points each= 200	Lab reports must be completed and submitted before the lab session ends. No make-up labs are allowed.
Final exam	20 points= 20	Final exam is online on Blackboard platform.
Lab safety	20 points= 20	Just follow the safety rules
TOTAL POINTS	410	

Final Grade	Points	% Required
A	369-410	90%-100%
B	328-368	80%-89%
C	287-357	70%-79%
D	246-286	60%-69%
F	<246	<59%

ACADEMIC DISHONESTY

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

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

UTEP is committed to provide an educational environment that is accessible to all students, those that need accommodations for a disability, please contact The Center for Accommodations and Support Services (CASS), located at Union Building East Room 106, or visiting its website <http://sa.utep.edu/cass/home> for an appointment to discuss your needs and the process for requesting accommodations.

COVID-19 CONTINGENCY

In case of illness, please notify me immediately at hpdelcastil@utep.edu to make arrangements, so you can complete the missed lab work. Please attach the Covid-19 test document in the email you will send.

SCHEDULE OF EXPERIMENTS

Week	Experiment
Jan 18-21	No Labs
Jan 24-28	Check-in, Welcome
Jan 31-Feb 4	Experiment 1 Elements compounds and ions
Feb 7-11	Experiment 2 Density and mass
Feb 14-18	Experiment 3 Chemical formula by titration
Feb 21-25	Experiment 4 Stoichiometry of reactions
Feb 28 - March 4	Experiment 5 Important ions
March 7-11	Experiment 6 Acid-Base titrations
March 14-18	No Labs - Spring Break
March 21-25	No Labs in Observance of Cesar Chavez holiday
March 28- April 1st	Experiment 7 Gases
April 4-8	Experiment 8 Calorimetry
April 11-15	No Labs – Dead Day
April 18-22	Experiment 9 Flame tests
April 25-29	Experiment 10 Conductivity of solutions
May 2-6	Final Exam in Blackboard

DEADLINE FOR ASSIGNMENTS

Week	Experiment	Prelab	Lab Report	LABSTER SIMULATION
Jan 24-28	WELCOME	N/A	N/A	"Lab Safety" Sunday Jan 30 at 11:59 PM
Jan 31-Feb 4	Experiment 1 Elements compounds and ions	N/A	At the end of the experiment before leaving the room.	"Chemical Nomenclature" Sunday Feb 6 at 11:59 PM
Feb 7-11	Experiment 2 Density and mass	The day before the experiment at 11:59 PM	At the end of the experiment before leaving the room.	"Applications of Buoyancy: floatation" Sunday Feb 13 at 11:59 PM
Feb 14-18	Experiment 3 Chemical formula by titration	The day before the experiment at 11:59 PM	At the end of the experiment before leaving the room.	"Solution Preparation " Sunday Feb 20 at 11:59 PM
Feb 21-25	Experiment 4 Stoichiometry of reactions	The day before the experiment at 11:59 PM	At the end of the experiment before leaving the room.	"Stoichiometric Calculations" Sunday Feb 27 at 11:59 PM
Feb 28 - March 4	Experiment 5 Important ions	The day before the experiment at 11:59 PM	At the end of the experiment before leaving the room.	N/A
March 7-11	Experiment 6 Acid-Base titrations	The day before the experiment at 11:59 PM	At the end of the experiment before leaving the room.	"Acids and Bases" Sunday March 13 at 11:59 PM
March 28- April 1 st	Experiment 7 Gases	The day before the experiment at 11:59 PM	At the end of the experiment before leaving the room.	"Ideal Gas Law " Sunday April 3 at 11:59 PM
April 4-8	Experiment 8 Calorimetry	The day before the experiment at 11:59 PM	At the end of the experiment before leaving the room.	"Calorimetry: Using a bomb calorimeter " Sunday April 10 at 11:59 PM
April 18-22	Experiment 9 Flame tests	The day before the experiment at 11:59 PM	At the end of the experiment before leaving the room.	N/A
April 25-29	Experiment 10 Conductivity of solutions	The day before the experiment at 11:59 PM	At the end of the experiment before leaving the room.	N/A
May 2-6	Final Exam on Blackboard	N/A	N/A	Friday May 6th at 11:59 PM

COVID-19 and other conditions: Statement and Policy

The current pandemic situation calls for clear indications in the event of suspected COVID-19 exposure or any other medical condition that is considered dangerous. READ VERY CAREFULLY all the indications:

- 1) If you show COVID-19 symptoms or were exposed to an environment with active COVID-19 in recent days before your class, DO NOT ATTEND THE SESSION NOR CAMPUS BY ANY MEANS! Notify your instructor and TA immediately.
- 2) All COVID-19 exemptions will be valid only after your instructor and TA have received your COVID-19 test results or Dr.'s prescription note. ONLY NASOPHARYNGEAL TESTS WILL BE ALLOWED TO EXEMPT YOUR GRADE. Remember that we share campus with people that are currently unvaccinated, older people and people with underlying conditions who are more at risk of developing fatal health conditions. Be civil and help us at stopping the spread of the disease.
- 3) We will not accept COVID-19 testing results or Dr.'s prescription notes that show a date that is **2 days after your notification** to your instructor or TA. Being exposed to COVID-19 is a very important instance that needs to be taken seriously!

For example: If you have your class on a Tuesday morning and you suspect that you are infected with COVID-19 on Monday evening; you should notify us immediately. DO NOT ATTEND YOUR CLASS NOR UTEP AT ANY CIRCUMSTANCE! You will have until Wednesday at 11:59 PM to send your **NASOPHARYNGEAL** COVID-19 result or any document where we can read very clearly that you got tested for COVID-19 before Wednesday.

- 4) COVID-19 testing can also be very helpful to identify other diseases like the flu. Make sure to know the places where you can get the appropriate medical assistance on time. At UTEP, the following link describes such locations: <https://www.utep.edu/resuming-campus-operations/testing/>.
- 5) After 2 absences in a row due to **suspected** COVID-19, there will be no more exemptions for this same reason. While we understand that the current pandemic situation is hard for everybody, you must understand that you have two big responsibilities by taking in-person courses: you must comply and ace your courses while also help your community to stop the spread the disease. We encourage you to practice social distancing, wearing a mask inside and outside campus and lowering your exposure to active COVID-19 environments to avoid this problem.
- 6) In the event of testing positive for COVID-19 or any other similar disease, please communicate with your instructor immediately so you can work a solution with respect to your grades. No penalization on your grade will be done during the time that it takes for you

to recover, but other activities might be proposed to you to not lose chances to improve your grades at home.

- 7) No student will be allowed to pass the class without a 70% completion of the in-person laboratory activities under ANY CIRCUMSTANCE. As a laboratory class, it is of outmost importance that you receive the proper experimental education that complements your lecture. Plan your semester accordingly.