

GENERAL CHEMISTRY LAB I SYLLABUS CHEM 1105 UTEP



Fall 2021

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COURSE DESCRIPTION

UTEP CHEM 1105 is the first semester General chemistry laboratory. The overall goal of this course is to introduce 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
- Lab coat.
- Scientific calculator.

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 worn 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.

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, unless you have an emergency (you need to show proof) or a university-sanctioned event.

If necessary, a student may miss **and** make-up a **maximum of 2 laboratory sessions** in the semester (if there is proof of a valid emergency/event). Every other missed session will be deducted from the grade and no more make-ups will be allowed.

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 grades.

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, showing 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.

QUIZZES

The quizzes will be deployed on the Blackboard platform; those are located inside the experiment folder.

The use of the Respondus lockdown browser is mandatory. A detailed explanation about how to take quizzes is on the Home page, under the folder "Instructions for taking Quizzes"

The quizzes will last 10-15 minutes and there are two attempts, the highest grade obtained will be recorded.

The missed quizzes cannot be made up.

FINAL EXAM

The final exam is a compendium of the 10 quizzes presented during the term. It contains 20 questions randomly selected and it will be deployed the last week of classes.

The final exam will last one hour and there are two attempts, the highest grade obtained will be recorded.

COURSE EVALUATION

The final grade is based on a points system: 10 quizzes (10 pts each), 10 prelabs (10 pts each), 10 lab reports (20 pts each), Final Exam (20 pts) and Safety etiquette (20 pts).

The percentage of points you received out of the possible 440 points will determine your final grade for the lab.

ACADEMIC DISHONESTY

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 ACCOMMODATIONS

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.

SCHEDULE OF EXPERIMENTS

Week	Experiment
Aug 23-27	No Labs
Aug 30- Sept 3	Check-in, Welcome and Experiment 1 Elements compounds and ions
Sept 6-10	No Labs in Observance of Labor Day
Sept 13-17	Experiment 2 Density and mass
Sept 20-24	Experiment 3 Chemical formula by titration
Sept 27- Oct 1	Experiment 4 Stoichiometry of reactions
Oct 4-8	No Labs
Oct 11-15	Experiment 5 Important ions
Oct 18-22	Experiment 6 Acid-Base titrations
Oct 25-29	Experiment 7 Gases
Nov 1-5	Experiment 8 Calorimetry
Nov 8-12	Experiment 9 Flame tests
Nov 15-19	Experiment 10 Conductivity of solutions
Nov 22-26	No Labs in Observance of Thanksgiving
Nov 29- Dec 3	Final Exam in Blackboard

DEADLINE FOR ASSIGNMENTS

Week	Experiment	Prelab	Lab Report	Quiz
Aug 30- Sept 3	Experiment 1 Elements compounds and ions	N/A	At the end of the experiment before leaving the room.	Friday Sept 3 at 11:59 PM
Sept 13-17	Experiment 2 Density and mass	The day before the experiment at 11:59 PM	At the end of the experiment before leaving the room.	Friday Sept 17 at 11:59 PM
Sept 20-24	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.	Friday Sept 24 at 11:59 PM
Sept 27- Oct 1	Experiment 4 Stoichiometry of reactions	The day before the experiment at 11:59 PM	At the end of the experiment before leaving the room.	Friday Oct 1 st at 11:59 PM
Oct 11-15	Experiment 5 Important ions	The day before the experiment at 11:59 PM	At the end of the experiment before leaving the room.	Friday Oct 15 at 11:59 PM
Oct 18-22	Experiment 6 Acid-Base titrations	The day before the experiment at 11:59 PM	At the end of the experiment before leaving the room.	Friday Oct 22 at 11:59 PM
Oct 25-29	Experiment 7 Gases	The day before the experiment at 11:59 PM	At the end of the experiment before leaving the room.	Friday Oct 29 at 11:59 PM
Nov 1-5	Experiment 8 Calorimetry	The day before the experiment at 11:59 PM	At the end of the experiment before leaving the room.	Friday Nov 5 at 11:59 PM
Nov 8-12	Experiment 9 Flame tests	The day before the experiment at 11:59 PM	At the end of the experiment before leaving the room.	Friday Nov 12 at 11:59 PM
Nov 15-19	Experiment 10 Conductivity of solutions	The day before the experiment at 11:59 PM	At the end of the experiment before leaving the room.	Friday Nov 19 at 11:59 PM
Nov 29- Dec 3	Final Exam in Blackboard	N/A	N/A	Friday Dec 3rd at 11:59 PM

COURSE ASSESSMENT

Assessment Items	Points	Due Date
Quizzes online	10 points each = 100	Week of the experiment on Friday at 11:59 P.M. No make-up quizzes are allowed.
Pre-Labs	9 points each= 90	Online Pre labs are due the day before the class at 11:59 P.M. No late pre-labs will be accepted.
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	430	

Final Grade	Points	% Required
A	383-430	90%-100%
B	340-382	80%-89%
C	297-339	70%-79%
D	258-296	60%-69%
F	<258	<59%