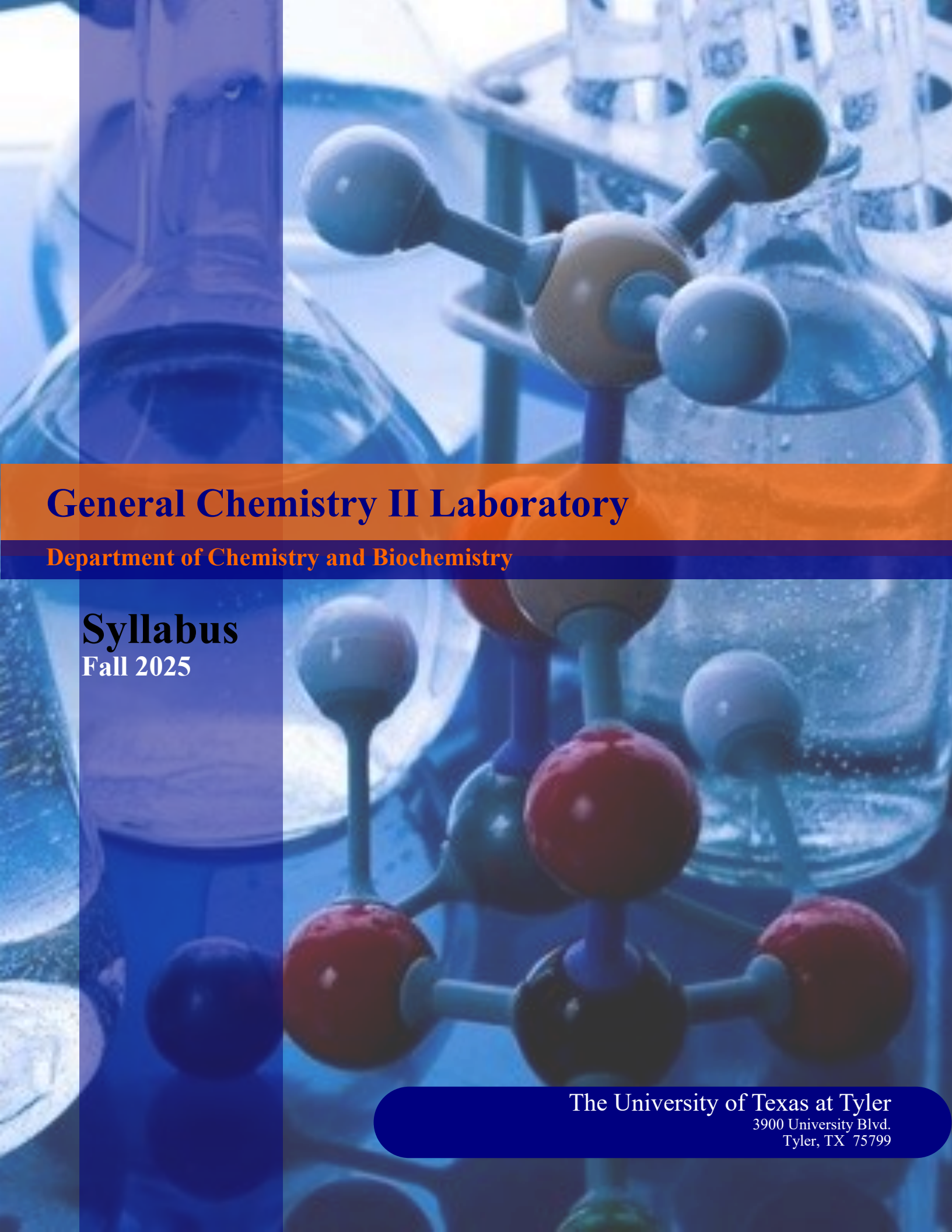

General Chemistry II Laboratory

Department of Chemistry and Biochemistry

Syllabus

Fall 2025

The University of Texas at Tyler
3900 University Blvd.
Tyler, TX 75799

Table of Contents

Meeting Times and Dates

Semester runs from Aug 25 to Dec 12

Section	Time	Room	Instructor
003	Tues, 1:30 -5:30 pm	RBS 3022	Mr. Kevin Villeda-Olmos *Dr. Tanya Shtoyko
001	Wed, 8:30 am -12:30 pm	RBS 4014	**Mr. Keiston Howard** *Mr. Jerome Lewis
002	Wed, 8:30 am -12:30 pm	RBS 4014	**Mr. Keiston Howard** * Dr. Bryan Tuten
*Instructor of Record for listed section			

Course Overview:

Chemistry is an experimental science. Chemical knowledge has resulted from experimental observations and studies made by thousands of scientists over many centuries. In the chemistry laboratory, students will examine, test, and establish for themselves the chemical principles studied in class and from textbooks; will collect experimental data; and will use their reasoning to draw logical conclusions about the meaning of these date.

Prerequisite: *General Chemistry I (CHEM 1312) & General Chemistry I Lab (CHEM 1111), and credit for or concurrent enrollment in General Chemistry II(CHEM 1311).*

Instructor Contact Information

Instructor	Office	Office Hours	Email	Phone
Mr. Keiston Howard	RBS 3rd Floor	Mon & Thurs, 1-2 pm Tues, 11 am-12 pm	khoward16@patriots.uttyler.edu	N/A
Mr. Kevin Villeda-Olmos	RBS 3rd Floor	Mon, 3-5 pm Thurs, 4-5 pm	kvilledaol-mos@patriots.uttyler.edu	N/A
Mr. Jerome Lewis Lab Coordinator	RBS 2013	Wed, 11:30 am-12:30 pm Thurs, 9:30 am-11:30 am Fri, 9:30 am-11:30 am	jeromelewis@uttyler.edu	903.566.7206
Dr. Bryan Tuten	RBS 3029	TBD	btuten@uttyler.edu	

Student Learning Outcomes (Core Objective Assessed):

- Students will demonstrate the ability to make scientific predictions of natural phenomena using chemical concepts learned in the lab. (Critical Thinking Skills)
- Students will develop skills in collecting and managing data in order to express their results in a precise and reliable quantitative or qualitative form on lab reports. (Empirical and Quantitative Skills, Communication Skills)
- Students will apply chemical concepts to draw logical conclusions about the applicability of data to real-world problems. (Critical Thinking Skills)
- Students will use collected data to calculate physical or chemical quantities germane to the experiment being performed. (Empirical and Quantitative Skills)
- Students will develop teamwork skills that include not only the efficient acquisition of experimental data, but also the awareness of safety in the laboratory setting. (Teamwork)

In addition to the core objectives being assessed students will also be expected to:

- Use basic apparatus and apply experimental methodologies in the chemistry laboratory setting
- Demonstrate safe and proper handling of laboratory equipment and chemicals

Materials Required for Lab Work:

Laboratory Notebook: Each student must purchase and maintain a bound laboratory notebook in which to generate a *permanent* record of experimental observations, notes, calculations, etc. The lab record book you purchase must provide:

- a label for your name and contact information (phone, email, or other), course prefix (CHEM), course and section number (*e.g.* 1112.001), semester, and the instructor's name;
- a table of contents page
- pages consecutively *pre-numbered*;
- *preprinted* page headings for entering title, date, name, and *specific* lab section (e.g., CHEM 1112.006); and
- a *perforated*, carbonless duplicate for each page.

Lab Manual: CHEM 1112 General Chemistry II Laboratory Manual, Department of Chemistry, The University of Texas at Tyler, Tyler, Texas, 2014. **Provided online through Canvas.**

Scientific Calculator

Computer Access: with Microsoft Excel, PowerPoint, Word, Zoom, and LoggerPro (free for students through course).

Personal Protect Equipment (PPE):

1. **Splash-Proof Goggles** must be worn in the laboratory whenever you or your neighbors are performing experiments. (Time during your initial lab period will be allotted for purchasing goggles from your American Chemical Society Student Affiliates on campus to ensure that you will be prepared to comply with this requirement.) **Warning**: students will not be admitted into the lab without splash-proof goggles!
2. **Nitrile Gloves** must be worn in the laboratory whenever you are handling chemicals and performing experiments. Gloves will be provided.
3. Students must also plan ahead to be clothed appropriately for laboratory work. **Warning**: students will not be allowed to work in the lab without an effective coverage from chest to toes! (**This means *no open-toed shoes* or extensive areas of exposed skin on your torso!**) If you do not meet these requirements, you cannot work in the lab until the requirements are met.

Laboratory Requirements:

A. Students who perform unauthorized experiments or who remove chemicals or equipment from the lab may be dropped from the course or have their grades lowered.

B. Arrive on time and be prepared for each laboratory session. The laboratory experiments are such that the average student can complete the work during the assigned time. This can be accomplished only if a reasonable amount of study and preparation has been done before coming to the laboratory.

C. Students are responsible for laboratory equipment furnished by the Department of Chemistry and students may be required to purchase any missing or damaged equipment.

D. The grading of experiments will be based on the evaluations of each student's laboratory performance, experimental results, and the quality of their laboratory reports (*i.e.*, analyses and presentations of results.)

E. Students will be responsible for maintaining cleanliness in the desk areas. Students will be responsible to maintain a clean work area during each lab session Students will be required to clean/sanitize their area of responsibility which may include cleaning/sanitation of shelves, sinks, hoods, reagent tables, and glassware/equipment. Students who neglect their clean-up responsibilities will have their grades significantly lowered for that day's work. Therefore, it is important that students have their clean-up duties approved by the lab instructor before leaving lab.

F. Students are required to turn in a lab report for each experiment. Your instructor will explain what is expected in the lab reports.

G. Each instructor will provide an addendum to this syllabus listing specific requirements for that section.

Safety Policy

Read, comprehend, and follow the laboratory safety guidelines at all times. These rules include, but are not limited to:

Safety goggles must be worn in the laboratory at all times. Students who do not have safety goggles will not be admitted into the laboratory.

You will not be allowed in the lab with open-toed shoes or any clothing exposing extensive areas of your skin to the risks of burns or chemical splashes. Please come to class each day wearing long pants or skirt, an appropriate shirt and closed toe shoes. There is not sufficient time for you to return home to change clothes and we have NO opportunity to make-up missed labs. Baggy clothes, shorts, leggings, and yoga pants are not appropriate lab attire. Crocs, flip flops, flats, and sandals are not appropriate foot-wear for lab.

Do not consume *anything* by mouth in the lab, including gum and smokeless tobacco! There is no eating in the lab space.

Do not perform unauthorized experiments or remove chemicals or equipment.

Safety table will need to be completed before entering lab and starting the experiment. Knowing the hazards and how to mini-mize those hazards are to keep you safe.

Note: we take safety infractions very seriously. Depending on the seriousness of such infractions, you may lose points on your lab work habits grade, be dismissed and receive a zero on any work missed, or even be dropped from the course.

Artificial Intelligence Statement

UT Tyler is committed to exploring and using artificial intelligence (AI) tools as appropriate for the discipline and task undertaken. We encourage discussing AI tools' ethical, societal, philosophical, and disciplinary implications. All uses of AI should be acknowledged as this aligns with our commitment to honor and integrity, as noted in UT Tyler's Honor Code. Faculty and students must not use protected information, data, or copyrighted materials when using any AI tool. Additionally, users should be aware that AI tools rely on predictive models to generate content that may appear correct but is sometimes shown to be incomplete, inaccurate, taken without attribution from other sources, and/or biased. Consequently, an AI tool should not be considered a substitute for traditional approaches to research. You are ultimately responsible for the quality and content of the information you submit. Misusing AI tools that violate the guidelines specified for this course is considered a breach of academic integrity. The student will be subject to disciplinary actions as outlined in UT Tyler's Academic Integrity Policy. Refer to the About This Course section of the UT Tyler Syllabus Module for specific information on appropriate use of AI in your course(s). For this course, AI is not permitted in this course at all. In this course, all work submitted by students must be their own ideas and thoughts. All assignments and course experiments have been designed to support learning. Doing work without human or artificial intelligence will provide and support you in your efforts of mastering the course material. In this course, any AI tools, for example ChatGPT, is prohibited throughout the semester. Deviations from these guidelines will be considered a violation of UT Tyler's Honor Code and academic honesty values.

Course Grading

The grading of the lab reports, quizzes, and exams are up to your instructor; however the weight of these items will be uniform across all lab sections (see below). Your overall course grade will tentatively be based on the 90/80/70/60 percentage scale, but it may be adjusted based upon your instructor's judgment of the overall class performance.

The grades for this course will be weighted as follows:

10%	Pre-Lab Quizzes
10%	Lab Notebook Pages
25%	Laboratory Reports
20%	Post Lab Quizzes
20%	Teamwork Project
15%	Laboratory Skill Exam
Total: 100%	

Pre-Lab Quizzes:

Pre-lab quizzes will be assigned on Canvas before each lab meeting to encourage you to be prepared for class. The quizzes will be based on the lab manual and lab videos from the tool kit. You will only get one (1) chance to take the quiz. You will have a week to take the quiz; therefore, you have enough time to complete them. The quizzes do not have a timer; however, will close on the due date (the beginning of your lab section). It is essential that all students come prepared to start working on their experiment as soon as class begins.

Lab Notebook Pages:

Maintaining detailed records of your laboratory work is vital for producing quality scientific reports or publications. A scientific investigator cannot prove their work is valid without a properly maintained notebook. Lab notebook page assignments will be worth thirty (30) points each. The lab notebook pages will consist of a purpose (3 pts), safety (10 pts), procedure (5 pts), data (5 pts), and calculations (7 pts). Students will need to complete their Pre-Lab before they are able to conduct an experiment. The Pre-lab consists of a purpose (1 or 2 sentences), safety table (for the listed chemicals from the lab manual), and a procedure section. The Pre-lab will be checked by your instructor or teaching assistant (undergraduate TA) before you can conduct the experiment. The data, results, and calculation section will be completed during the experiment, and your instructor will state what data and results you will need to have in your lab notebook pages. Once the experiment is complete, the students will turn in their lab notebook pages into their instructor. Lab notebook pages will also be used to track attendance; therefore, it is important to turn them in at the end of lab.

Post-Lab Quizzes:

Post-Lab quizzes will be given on Canvas after experiments 1-4. These quizzes will cover discussion and theoretical topics related to the completed experiment. These quizzes will be more challenging and are designed to assess your mastery of the experimental concepts. These quizzes are also designed to help you get prepared to write a typed lab report. Therefore, you will be submitting graphs, putting data into tables, writing experimental methods, and discussing your results.

Teamwork Project:

While it is important to be able to communicate scientific information in writing, it is equally important to do the same orally. In a group, you and your teammates will be required to collaborate and develop a presentation about an assigned molecule. You will decide who you will work with, your teamleader, submit a 2D structure of your molecule, submit ACS style references, and present information about your molecule. structure or 3D computer generated model of your molecule. Yes, you must present your presentation in-person. More specific details for the project will be given to you by your instructor.

Lab Reports:

All laboratory reports will be generated and submitted digitally through Canvas. Also, in this digital age, it is important that you can properly write, format and communicate a scientific document digitally. Each experiment is different; therefore, the lab report and the items required within will change for each experiment. To know what you will need to include, refer to the lab schedule. You will be asked to write a experimental, data/results section, and a conclusion section. A typed lab report will be required for experiments 5-7. To accomplish this, you may need to generate tables and graph to properly communicate the information, and you will be required the use Microsoft Word & Excel (or equivalent) and LoggerPro. Your instructor will provide you details of required information for each experiment.

Laboratory Skill Exam:

Designed to test your understanding of topics taught in General Chemistry II lab. Exam will have both experimental and theoretical questions on it so you want to make sure you know how to do the experiment and the background knowledge to complete any calculations or answer open-ended questions. You will signup for a time to complete the experimental portion of the exam and then will an hour to complete calculations and short-answer questions. YOU WILL BE COMPLETING THE LABORATORY SKILL EXAM BY YOURSELF. Your lab partner will not be able to help you. Therefore, it is imperative that you know how to do the experiments, understand the background knowledge, as well as, how to process the data.

Dropping the Course:

The last day to withdraw from the course with an automatic grade of "W" is listed on the laboratory schedule. Before dropping the course, you should consult with your instructor to examine all of your options. Dropping this course does not obligate you to also drop the lecture course because they are two separate courses. However, dropping the lecture course may significantly hinder your progress in this course because you will be expected to learn the chemical theories and concepts on your own.

General Chemistry II Laboratory Schedule

Week Of:	Experiment Schedule
Aug 25-29	Introduction to course, syllabus, schedule, lab notebooks & reports & lab safety
Sept 1-5	Exp 1: Exploring the Properties of Gases Post-lab Quiz
Sept 8-12	Exp 2: Crystalline Lattice Structures Post-lab Quiz Census Date: Sept 8th
Sept 15-19	Exp 3: Synthesis of Alum Post-lab Quiz
Sept 22-26	Exp 4: Determining Molar Mass by Freezing Point Depression Post-lab Quiz
Sept 29-Oct 3	Lab Report/Excel Workshop (Online) ~or~ Make-Up Experiment (IF Necessary, Exp 1-4)
Oct 6-10	Exp 5: Spectrophotometric Determination of Food Dyes Lab Report - Data/Results & Conclusion (2 pages max)
Oct 13-17	Exp 6: Determining Reaction Rate by Initial Rate Method Lab Report - Experimental, Data/Results, & Conclusion (2 pages max)
Oct 20-24	Exp 7: Determine the Acid Dissociation Constant of a Weak Acid Lab Report - Data/Results & Conclusion (2 pages max) Last day (Nov 3rd) to drop or withdraw from a course with an grade of "W"
Oct 27-31	Functional Groups & Review of Molecular Geometry and Bonding
Nov 3-7	Teamwork Project
Nov 10-14	Make-Up Experiment (IF Necessary, Exp 5-7)
Nov 17-21	Laboratory Skills Exam
Nov 24-28	Thanksgiving Break—Labs will not meet this week
Dec 1-5	Lab will not meet
Dec 8-12	Final Exams — Labs will not meet this week

Note: the right to substitute or switch labs, as required by unforeseen circumstances, is reserved. All lab procedures are provided in your lab manual.

Late Work & Make Up Expectations

Lab attendance is essential. ***One*** make up lab is allowed (for ***one*** excused absence only).

An unexcused absence results in a grade of zero for any lab work or exam missed.

Normally, an excused absence includes medical emergencies, a death in your family or required travel for a UT Tyler's event (*e.g.,* athletic team travel). All supporting documentation should be presented to the lab instructor.

Students who anticipate being absent from class due to a religious observance are *required* to inform their instructors of such absences as soon as possible (at least one week before the religious holiday).

Students who anticipate being absent from class due to a required travel for a UT Tyler's event (e.g., athletic team travel) are *required* to inform their instructor(s) of such absences at least one week before the absence.

University Policies

UT Tyler Honor Code

Every member of the UT Tyler community joins together to embrace: Honor and integrity that will not allow me to lie, cheat, or steal, nor to accept the actions of those who do.

Students Rights and Responsibilities

To know and understand the policies that affect your rights and responsibilities as a student at UT Tyler, please follow this link: http://www.uttyler.edu/wellness/rightsresponsibilities.php

Campus Carry

We respect the right and privacy of students 21 and over who are duly licensed to carry concealed weapons in this class. License holders are expected to behave responsibly and keep a handgun secure and concealed. More information is available at http://www.uttyler.edu/about/campus-carry/index.php

UT Tyler a Tobacco-Free University

All forms of tobacco will not be permitted on the UT Tyler main campus, branch campuses, and any property owned by UT Tyler. This applies to all members of the University community, including students, faculty, staff, University affiliates, contractors, and visitors. Forms of tobacco not permitted include cigarettes, cigars, pipes, water pipes (hookah), bidis, kreteks, electronic cigarettes, smokeless tobacco, snuff, chewing tobacco, and all other tobacco products. There are several cessation programs available to students looking to quit smoking, including counseling, quitlines, and group support. For more information on cessation programs please visit www.uttyler.edu/tobacco-free.

Grade Replacement/Forgiveness and Census Date Policies

Students repeating a course for grade forgiveness (grade replacement) must file a Grade Replacement Contract with the Enrollment Services Center (ADM 230) on or before the Census Date of the semester in which the course will be repeated. (For Fall, the Census Date is Sept. 12, 2016.) Grade Replacement Contracts are available in the Enrollment Services Center or at http://www.uttyler.edu/registrar. Each semester's Census Date can be found on the Contract itself, on the Academic Calendar, or in the information pamphlets published each semester by the Office of the Registrar.

Failure to file a Grade Replacement Contract will result in both the original and repeated grade being used to calculate your overall grade point average. Undergraduates are eligible to exercise grade replacement for only three course repeats during their career at UT Tyler; graduates are eligible for two grade replacements. Full policy details are printed on each Grade Replacement Contract. The Census Date (Sept. 12th) is the deadline for many forms and enrollment actions of which students need to be aware. These include:

- Submitting Grade Replacement Contracts, Transient Forms, requests to withhold directory information, approvals for taking courses as Audit, Pass/Fail or Credit/No Credit.
- Receiving 100% refunds for partial withdrawals. (There is no refund for these after the Census Date)
- Schedule adjustments (section changes, adding a new class, dropping without a "W" grade)
- Being reinstated or re-enrolled in classes after being dropped for non-payment
- Completing the process for tuition exemptions or waivers through Financial Aid

State-Mandated Course Drop Policy

Texas law prohibits a student who began college for the first time in Fall 2007 or thereafter from dropping more than six courses during their entire undergraduate career. This includes courses dropped at another 2-year or 4-year Texas public college or university. For purposes of this rule, a dropped course is any course that is dropped after the census date (See Academic Calendar for the specific date).

Exceptions to the 6-drop rule may be found in the catalog. Petitions for exemptions must be submitted to the Enrollment Services Center and must be accompanied by documentation of the extenuating circumstance. Please contact the Enrollment Services Center if you have any questions.

Disability/Accessibility Services

In accordance with Section 504 of the Rehabilitation Act, Americans with Disabilities Act (ADA) and the ADA Amendments Act (ADAAA) the University of Texas at Tyler offers accommodations to students with learning, physical and/or psychological disabilities. If you have a disability, including non-visible a diagnosis such as a learning disorder, chronic illness, TBI, PTSD, ADHD, or you have a history of modifications or accommodations in a previous educational environment, you are encouraged to visit https://hood.accessiblelearning.com/UTTyler and fill out the New Student application. The Student Accessibility and Resources (SAR) office will contact you when your application has been submitted and an appointment with Cynthia Lowery, Assistant Director Student Services/ADA Coordinator. For more information, including filling out an application for services, please visit the SAR webpage at http://www.uttyler.edu/disabilityservices, the SAR office located in the University Center, # 3150 or call 903.566.7079.