INSTRUCTOR INFORMATION
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REQUIRED TEXT
Modern General Chemistry Laboratory: Incorporating Computer-Oriented Data Acquisition and Evaluation Approach into the Student Laboratory Experience, William E. Acree, Jr.

ADDITIONAL MATERIALS REQUIRED:
Safety goggles/glasses* worn at all times in the lab*, and a scientific calculator

STUDENT LEARNING OUTCOMES
Upon completing the course, the student should be able to:

- Readily identify glassware commonly used in the chemistry laboratory and know how to properly utilize the glassware.
- Demonstrate an understanding of basic chemistry techniques, such as how to calculate percent yields, how to properly use measuring devices, how to properly clean glassware at the end of an experiment.
- Demonstrate an understanding of the safety requirements and methods needed to work in a chemistry laboratory. Learn how to safely handle, utilize and dispose of chemicals.
- Demonstrate ability to communicate in the form of laboratory reports with a clear, purposeful, and appropriate use of evidence, data and technology as applicable.
- In laboratory experiments, students should be able to both individually and within a team with fellow classmates, conduct laboratory experiments, critically analyze data, draw conclusions from the data, and clearly and concisely report the observations and conclusions drawn from the laboratory experiments.
- Work together toward a shared purpose relevant to the course or discipline with a sense of shared responsibility for meeting that purpose.

LAB RECITATION
This course has a lab recitation/lecture that is solely online in the form of Learning Modules posted on Canvas. Each Learning Module includes one or more short video demonstrations on how to set up the laboratory experiment and related safe lab practices, as well as videos of brief tutorials and/or applications relating to the experiment and its concepts. An online Lab Quiz that is part of the grade for this course is also included. One or more of the videos also helps you answer the lab Quiz questions. You must therefore watch all the videos posted in each learning module.
LAB QUIZZES

A Lab quiz is included in each learning module. Learning Modules will be available all semester once posted under Course Content, but quizzes are only available about 5 days before the lab until 11:59 pm the night BEFORE your lab section time. Thus, Lab Quizzes are due at 11:59 pm, the night before your Lab. If your Lab quiz is not completed by this due date/time, you will receive a zero for it. There will be NO make up for the Quizzes.

The link to the video demonstrations for CHEM 1430 playlist (best viewed in 1080p) is https://www.youtube.com/playlist?list=PLZlpfOHyl5T4QsiYanDoi5NGjjCQTn9Fh

BEFORE LAB EACH WEEK:

You must prepare for Lab beforehand. This will be accomplished by going through the entire learning module (click every link to see what it contains) and watch the related videos, then complete the online lab quiz. The worked out examples in the videos help you set up the quiz calculations.

In addition, your lab TA will check for completion of a step-wise procedure paraphrased and summarized from the lab manual (not copied!). The TA will OK, and initial this procedure before lab. Students cannot begin lab without a numerical, stepwise procedure on a separate sheet of paper. The stepwise procedure must be written in such a way that, someone else can use it to perform the experiment without referring to the lab book, or the handout provided on Canvas. Your TA reserves the right to deduct points from your post lab, if your step-wise procedure is not written according to the guidelines provided on the first day of Lab. Steps must be numbered and legible if handwritten (typed, if you have a poor handwriting!); however, see section on plagiarism and academic dishonesty).

LAB HANDOUTS

Lab handouts have been posted to Canvas for the procedures of those experiments that are not in the Lab Book. Students must print out the handouts and bring the hard copies to the Lab. You can print free-of-charge at any of the libraries on campus, or in the Chemistry Computer Lab (Chem building room 232).

You must read the through the procedure on the Handouts and prepare your stepwise summary of the procedure. Your Lab TA will check to make sure that your stepwise procedure is ready at the beginning of the Lab. If you have not completed the stepwise procedure, your TA reserves the right to send you out to complete it. You might NOT be allowed back into the Lab if you are more than 20 minutes late.

LAB CLEANLINESS

Students are expected to maintain a clean and orderly lab. At the end of every experiment, your bench space and hood space must be clean. Any equipment utilized during the experiment must be cleaned as well (balances, Pasco equipment, etc.), and glassware must be dried and put back in the drawer. You should ensure that sinks and floors are also clean. If the lab space and equipment that you utilized during the experiment is left dirty and unorganized, you will be penalized 20% on your post lab.
TENTATIVE SCHEDULE (Subject to change at the discretion of the instructor)

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<th>Recitation and Lab</th>
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| 1/13    | **Recitation:** Check Canvas: Read through the Syllabus, and familiarize yourself with the Learning modules and Course expectations. Purchase Lab Book at the UNT Bookstore.
Lab: NO LABS this week! Labs begin next week.
[**Monday Labs begin on 1/27 due to MLK holiday.**] The Monday Labs will do both Safety training and Lab 1 on 1/27.] |
| 1/20    | **Recitation:** Learning module on safety and Lab Check in
This week your TA will go over safety, Lab quizzes, grading scheme, their expectations, as well as Lab Check in. You will need to watch [a mandatory Safety video](#), at your own time, and turn in the accompanying pay-attention sheet for 10 points extra credit. The extra credit will be awarded for **correct answers only.** 0.25 points will be deducted for every incorrect answer until you run out of points. IT IS NOT A COMPLETION GRADE. Failure to turn in the Safety pay-attention form will result in non-admittance into any Lab. [A student must be safety trained in order to perform any experiment]. |
| 1/27    | **Online Quiz 1:** Due the day before your Lab 1.
**Lab 1 learning module:** Perform Experiment 1 (Handout): Introduction to Data Measurement and Analysis. *(The handout for this experiment is available on Canvas for you to print and bring to lab.)* |
| 2/3     | **Online Quiz 2:** Due the day before Lab 2.
**Lab 2 learning module:** Perform Experiment 2: Physical and chemical properties of liquids. |
| 2/10    | **Online Quiz 3:** Due the day before your Lab 3.
**Lab 3 learning module:** Perform the Mole Concept experiment (Handout). *(The handout for this experiment is available on Canvas for you to print and bring to lab.)* |
| 2/17    | **Online Quiz 4:** Due the day before your Lab 4.
**Lab 4 learning module:** Perform Experiment (Handout): Atomic Structure: Light, Quantization, and the Hydrogen Atom *(The handout for this experiment is available on Canvas for you to print and bring to lab.)* |
| 2/24    | **Online Quiz 5:** Due the day before your Lab 5.
**Lab 5 learning module:** Perform Experiment (Handout): Lewis Structures - Formal Charge & Resonance. *(The handout for this experiment is available on Canvas for you to print and bring to lab.)* |
| 3/2     | **Online Quiz 6:** Due the day before your Lab 6.
**Lab 6 learning module:** Perform Experiment (Handout): Molecular geometry and modelling *(The handout for this experiment is available on Canvas for you to print and bring to lab.)* |
| 3/9     | **Spring Break:** NO LABS! |
| 3/16    | **Online Quiz 7:** Due the day before your Lab 7.
**Lab 7 learning module:** Perform Experiment 3A;– Determination of empirical formula and waters of hydration. |
3/23 **Online Quiz 8:** Due the day before your Lab 8.
   **Lab 8 Learning module:** Perform **Experiment 5:** Preparation of Alum

3/30 **Online Quiz 9:** Due the day before your Lab 9.
   **Lab 9 learning module:** Perform **Experiment (Handout):** Reactions in aqueous solutions – verification of solubility rules. (*The handout for this experiment is available on Canvas for you to print and bring to lab.*)

4/6 **Online Quiz 10:** Due the day before your Lab 10.
   **Lab 10 Learning module:** Perform **Experiment (Handout):** Introduction to Acid-Base Chemistry. (*The handout for this experiment is available on Canvas for you to print and bring to lab.*)

4/13 **Online Quiz 11:** Due the day before your Lab 11.
   **Lab 11 Learning module:** Perform **Experiment 10:** Introduction to Calorimetry

4/20 **Online Quiz 12:** Due the day before your Lab 12.
   **Lab 12 Learning module:** **Experiment 7:** Verification of the ABC gas laws.

Laboratory reports/data sheets must be turned in within **one week** of when the laboratory experiment is completed.

**Disclaimer:** Teaching policies and regulations for this course are not open for discussion or negotiation. This syllabus has been constructed to be as complete as possible but is by no means a binding document. I reserve the right to alter policies and regulations as needed.

**DROP LABS**

There is NO drop-lab

**MAKE-UP LABS**

If you miss a lab due to one of the following five reasons it will be excused. Otherwise, a missed laboratory will result in a zero for that experiment. **You must turn in the documentation for the missed laboratory to your TA.**

You are only allowed ONE excused lab*, due to extremely extenuating circumstances, such as those listed below. Subsequent missed labs will be awarded a zero grade.

Acceptable reasons for missing an experiment are:

1. Illness (with physician’s note)
2. Death of a close family member or friend (must provide documentation)
3. Religious holiday (preplanned and cleared with instructor in advance)
4. An official University activity (preplanned and cleared with instructor in advance)
5. Cancellation of classes by the University (this includes inclement weather days or tornado sirens)

*(You might be able to make up a missed lab by attending another lab section in the same week. This is strictly subject to availability of room in the other section. Please talk to your TA about this option).
GRADING POLICY

Your grade will be determined by 12 Lab quizzes from lab recitation and your performance in the laboratory (completed laboratory reports and TA assessment of safe laboratory practices). This semester 12 laboratory experiments will be performed. The 300 total points in the laboratory are broken down as follows:

12 Laboratory experiments  Points Possible = 12 x 15 = 180
Attendance/Punctuality (2 points max.)  Points Possible = 12 x 2 = 24
Safety per Lab (1.5 points max.)  Points Possible = 12 x 1.5 = 18
Clean-up per Lab (1.5 points max.)  Points Possible = 12 x 1.5 = 18
Lab Quizzes  Points Possible = 12 x 5 = 60
Total:  = 300

Extra credit from Safety pay-attention form  10 points

90 – 100 % of the total points  Grade = A
80 – 89 % of the total points  Grade = B
70 – 79 % of the total points  Grade = C
60 – 69 % of the total points  Grade = D
Below 60 %  Grade = F

For individuals with an excused absence, the total possible points in the laboratory will be adjusted accordingly to reflect the one excused absence.

Extra credit will be also available in the form of completing SPOT online evaluations. Students will send a screen shot of the completed survey page to the TA (not Dr. Kinyanjui) for 5 points.

TAs will enter grades on Canvas under the course page for lab recitation/lecture. It is the responsibility of the student to regularly check for consistency between grades entered on Canvas and grades recorded on physical copies of the laboratory write-up.

ATTENDANCE AND CLASSROOM BEHAVIOR

Attendance is required at scheduled lab hours. Labs will begin as noted on myUNT, so do not be late. If you arrive late, you can not only miss any additional instructions given by the TA, but your group has already begun working, therefore, if you arrive more than 20 minutes late for lab, you will receive a zero for that lab.

Disruptive and/or unsafe behavior will not be tolerated. Cell phones need to be muted during lab. A student engaged in disruptive or unsafe behavior can be asked to leave lab immediately and given a zero for that lab. Disruptive or unsafe behavior includes, but is not limited to: not listening to the TA, horsing around in the lab, cell phone use (such as texting, playing games, taking phone calls, etc), not wearing safety goggle or glasses when in the lab, etc.
OTHER NOTES

By university regulations, a grade of “I” (Incomplete) cannot be given as a substitute for a failing grade in a course. Students may pick up a drop slip at the chemistry main office (CHEM 101) or at the registrar and must provide it to the lab recitation instructor of record (not the TA!) by the withdrawal date listed on the university website.

CHEM 1430 is the laboratory course and a separate course from CHEM 1410. Students will receive separate grades for the two courses. Dropping either course does NOT automatically drop you from the other course. (For lab classes, be aware that you should be registered for both the lab lecture course (CHEM 1430.001) and a lab (CHEM 1430.3xx).

COURSE SAFETY STATEMENT (FOR LABORATORY COURSES)

Students in the laboratory are urged to use proper safety procedures and guidelines. While working in laboratory sessions, students are expected and required to identify and use proper safety guidelines in all activities requiring lifting, climbing, walking on slippery surfaces, using equipment and tools, handling chemical solutions and hot and cold products. Students should be aware that the University of North Texas is not liable for injuries incurred while students are participating in class activities. All students are encouraged to secure adequate insurance coverage in the event of accidental injury. Students who do not have insurance coverage should consider obtaining Student Health Insurance for this insurance program. Brochures for this insurance are available in the UNT Student Health and Wellness Center on campus. Students who are injured during class activities may seek medical attention at the Student Health and Wellness Center at rates that are reduced compared to other medical facilities. If you have an insurance plan other than Student Health Insurance at UNT, please be sure that your plan covers treatment at this facility. If you choose not to go to the UNT Student Health and Wellness Center, you may be transported to an emergency room at a local hospital. You are responsible for expenses incurred there.

ACADEMIC DISHONESTY AND PLAGIARISM

Students caught cheating or plagiarizing will receive a "0" for that particular assignment or exam. Additionally, the incident will be reported to the Dean of Students, who may impose further penalty.

According to the UNT catalog, the term "cheating" includes, but is not limited to: a. use of any unauthorized assistance in taking quizzes, tests, or examinations; b. dependence upon the aid of sources beyond those authorized by the instructor in writing papers, preparing reports, solving problems, or carrying out other assignments; c. the acquisition, without permission, of tests or other academic material belonging to a faculty or staff member of the university; d. dual submission of a paper or project, or resubmission of a paper or project to a different class without express permission from the instructor(s); or e. any other act designed to give a student an unfair advantage.

The term "plagiarism" includes, but is not limited to: a. the knowing or negligent use by paraphrase or direct quotation of the published or unpublished work of another person without full and clear acknowledgment; and b. the knowing or negligent unacknowledged use of materials prepared by another person or agency engaged in the selling of term papers or other academic materials. This also includes copying other students’ data in lab, unless
given express permission to do so by the TA; turning in a data sheet for an experiment that you were not physically present for; or copying other students’ words or work for a lab report.

ADA STATEMENT

The University of North Texas makes reasonable academic accommodation for students with disabilities. Students seeking accommodation must first register with the Office of Disability Accommodation (ODA) to verify their eligibility. If a disability is verified, the ODA will provide you with an accommodation letter to be delivered to faculty to begin a private discussion regarding your specific needs in a course. You may request accommodations at any time, however, ODA notices of accommodation should be provided as early as possible in the semester to avoid any delay in implementation. Note that students must obtain a new letter of accommodation for every semester and must meet with each faculty member prior to implementation in each class. For additional information see the Office of Disability Accommodation website at http://disability.unt.edu. You may also contact them by phone at (940) 565-4323.

EMERGENCY NOTIFICATION & PROCEDURES

UNT uses a system called Eagle Alert to quickly notify you with critical information in the event of an emergency (i.e., severe weather, campus closing, and health and public safety emergencies like chemical spills, fires, or violence). The system sends voice messages (and text messages upon permission) to the phones of all active faculty staff, and students. Please make certain to update your phone numbers at http://www.my.unt.edu. Some helpful emergency preparedness actions include: 1) know the evacuation routes and severe weather shelter areas in the buildings where your classes are held, 2) determine how you will contact family and friends if phones are temporarily unavailable, and 3) identify where you will go if you need to evacuate the Denton area suddenly. In the event of a university closure, labs scheduled during that time are excused absences in addition to the one dropped lab.

STUDENT PERCEPTION OF TEACHING (SPOT)

Student feedback is important and an essential part of participation in this course. The Student Perception of Teaching (SPOT) is a requirement for all organized classes at UNT. This short survey will be made available at the end of the semester to provide you with an opportunity to evaluate how this course is taught.

Extra credit: TA may give up to 5 points extra credit for completing the SPOT online evaluation form.

SUCCEED AT UNT

UNT endeavors to offer you a high-quality education and to provide a supportive environment to help you learn and grown. And, as a faculty member, I am committed to helping you be successful as a student. Here’s how to succeed at UNT: Show up. Find Support. Get advised. Be prepared. Get involved. Stay focused. To learn more about campus resources and information on how you can achieve success, go to http://success.unt.edu/