General Chemistry Laboratory I  
CHEM 1280 sections 1 - 16  
The University of Toledo  
Department of Chemistry and Biochemistry  
Spring 2018

Name: Dipl.Chem. Edith Preciosa Kippenhan  
Email: edith.kippenhan@utoledo.edu  
Instructor Phone: 419-530-4072  
Office Number: BO 1081  
Course Website: https://blackboard.utdl.edu  
Office Hours: T 1:00 – 3:00 pm, W 10:00 am – 12:00 pm, R 10:30 – 11:30 am and by appointment

Lab Location: BO 1095, 1097  
Lab Days and Times:  
T: 8:30 and 11:30 am, 2:30 and 7:00 pm  
R: 8:30 and 11:30 am, 2:30 and 5:45 pm

CATALOG/COURSE DESCRIPTION
1 hr—experiments about topics covered in Chem 1230 lectures. Approved chemistry safety goggles meeting ANSI Standard Z87.2003 must be worn by every student during every laboratory class meeting.

PREREQUISITES AND COREQUISITES
Corequisite: Chem 1230 General Chemistry I

REQUIRED INSTRUCTIONAL MATERIALS (TEXTS AND ANCILLARY MATERIALS)
Optional: CHEM 1280: Lab Handbook, Cengage

Eye Protection: Approved chemical safety goggles are required at all times. Goggles may be purchased at the UT bookstore or from the UT Student ACS chapter.

Equipment: personal electronic device (laptop, tablet or mobile phone) to be used during lab

Blackboard: This website is available through the University of Toledo Distance Learning program and can be accessed via the MyUT portal or via blackboard.utdl.edu. Your access code is your UTAD username and password.

Chem21: You will be required to purchase an access code in the UT bookstore or you can buy access to the Chem21 website (http://www.chem21labs.com) by the third week of the semester.

STUDENT LEARNING OUTCOMES (SLOs)
Upon successful completion of this course, you should be able to:
1. recognize standard laboratory glassware and analytical equipment;
2. work safely with hazardous substances and reactive chemical systems;
3. perform common laboratory techniques such as filtration and titration;
4. perform calculations to determine percent content of an unknown, percent yield and percent error;
5. write balanced chemical equations with states based upon your observations; and
6. determine the concentration of an unknown based upon a calibration curve;
7. collect, analyze and report data, and state a reasonable conclusion;
8. communicate ideas related to science in spoken and written word.

GENERAL EDUCATION REQUIREMENT
This course fulfills the Undergraduate General Education/Core Curriculum requirement of one semester hour of credit in a natural science as a lab.
TECHNOLOGY EXPECTATIONS
This class relies heavily on technology.

Information specific to each assignment and lab is posted in the Experiments section of our course in Blackboard (Bb). Other information pertaining to the course is posted in the Syllabus and Other Important Info section. Information presented during class via a PowerPoint presentation is posted in Bb as Student Notes.

You will need to regularly use Blackboard to stay on top of deadlines, look up course and assignment information, use class discussion boards to complete assignments, and e-mail your teaching assistant and/or instructor. Your teaching assistant or lab coordinator will send information to you via your Rockets email address. It is your responsibility to check both Bb and your Rockets e-mail on a regular basis.

Most pre- and post-lab work is completed online at the Chem21 website, but some work is done on paper, or with a computer, and submitted in lab. Most of the lab practical will be administered via a test in Bb on your laptop while you are in lab, the practical portion will happen at lab stations observed by your TA.

TEACHING STRATEGIES
This face-to-face course is designed to stimulate student learning though the delivery of readings, in-lab discussions, out-of-lab group work, and experimentation.

COURSE OVERVIEW
Welcome to the Bowman-Oddy General Chemistry Laboratories! I suspect you are asking, “Why am I here?” You are here because you selected a science-related field for your major, which requires a specific number and level of chemistry courses and lab in order to obtain a degree in that field. We honor that requirement and will work with you to make this experience as worthwhile as possible.

The major objective of this laboratory course is to allow you to learn various concepts through hands-on experiences while learning proper analytical and preparative techniques, the use of analytical equipment, how to collect, analyze and report data, and how to work safely in a laboratory. Your major probably isn’t chemistry, but you will be working in a science-related field. Whether you are pre-pharm, pre-med, pre-dent, an engineering major, etc. you will be working in numerous labs here on campus, and once you have graduated, you will probably work for a company whose facilities are regulated by OSHA (Occupational Safety and Health Administration). For this reason, we stress not only the learning of the concepts of the lab, but also the various safety concerns and proper use of equipment that accompany those concepts. Proper use of safety goggles and chemical fume hoods, and proper attire will be strictly enforced at all times! Your failure to abide by these policies will result in your expulsion from lab.

A second goal of this course is to prepare you for higher level courses and labs as well as work in your field. You will start with labs that are straightforward and “easy” and gradually work up to labs that require independent thought and analysis. Some of the labs will require you to come up with your own plan of how to test an unknown compound or mixture. Some may require a group discussion after the experiment but still in the lab. Be sure to read all of the sections of the experiment each week before going to lab so you know what to expect. Essential to this process is coming to lab prepared - knowing what you will be working with and what you are going to do. If you are well prepared for lab, you should be able to answer these five questions before you enter lab:

- What is the purpose of today’s lab?
- Which chemicals will be used today?
- What are the safety concerns and/or hazards of these chemicals?
- Which equipment and/or technique will be used today?
- What are the critical steps in today’s procedure?

The thought process behind the experiment is more important than being able to “crank through the calculations.” You will learn why we use different pieces of equipment for various procedures and how improper use can affect your results. It is this analytical thinking that you will carry with you to other
courses and into your career. Please note: Lab is NOT about getting the right answer. It is about making observations, analyzing the data, and combining it with your observations to come to a valid conclusion. Lab is thinking about and understanding why something did or did not work and how to do it differently and better the next time.

A common misconception is that one-credit-hour courses do not require a lot of work. Laboratory courses do, however. Unlike lecture, you have to prepare for lab or you are not allowed into lab. During lab you have to work up your data and come to a scientifically reasonable conclusion, one you can justify based on your data and observations. While most of your lab work will be done during your regularly scheduled lab class, there are also online quizzes and out-of-class assignments for this course. You might encounter a topic in lab before you learn about it in lecture (inquiry based learning), which some students prefer.

It is required that you stay in lab for the full time each week, and use that time to complete your post-lab work. For other assignments, schedule your time accordingly and do not let deadlines sneak up on you. If they do, remember it is more important to turn in work that is mostly complete than to miss the deadline and get a zero for the assignment. Do not give in to the temptation to “borrow” the work from someone else so you can finish your assignment on time. This will not only result in a zero for the assignment but it may also result in a final grade of “F” being assigned for academic dishonesty.

Lab can be a lot of fun. Once you have settled in, I hope you will find the experiments and their results interesting, and you will be able to tie this information to the material you are learning in lecture. Enjoy your time in lab, and don’t hesitate to contact me, either during office hours or by e-mail.

**STUDENT LEARNING OBJECTIVES**

By the end of this course you should be proficient in the:

- Reason for and the proper use of significant figures;
- Determination of precision and accuracy of different types of equipment and glassware;
- Proper use of analytical and preparative equipment and glassware;
- Determination of chemical vs. physical change;
- Effects of various parameters on reaction rates and solubility;
- Chemical properties of a substance based on the bonds in the compound;
- Calculations needed for stoichiometric reactions and yield determinations;
- Determination of the products and their states of a chemical reaction;
- Separation of substances using physical and chemical methods;
- Determination of the caloric content of a compound or food sample;
- Experimental determination of an ideal gas law;
- Spectrophotometric determination of an unknown with the use of a calibration curve;
- Identification of an unknown compound or mixture based on its physical and chemical properties;
- Demonstration of problem solving and critical thinking skills;
- Proper and effective collection, analysis, and reporting of data;
- Communication and discussion of results and chemical principles in oral and written form; and
- Proper and ethical manner of working in a collaborative environment.

**LAB ATTENDANCE POLICY**

Attendance is mandatory.

You are expected to be on time and ready for lab at the beginning of each lab period. You will not be admitted to lab if you are substantially late or if your pre-lab is incomplete or unsatisfactory. If you miss a lab, you may make it up only by attending another lab section during the same week that particular experiment is scheduled. It is up to you to make these arrangements with your instructor, either in person or via e-mail. There are no lab periods
designated as make-up labs, but there will be an extra credit assignment available at the end of the semester that may be used to partially replace the points for an unexcused absence.

If you need to attend another lab section during the same week as your regularly scheduled lab section, send an e-mail to edith.kippenhan@utoledo.edu, put Chem 1280, your section number, and “Need to attend another section” in the subject line. In the e-mail, list three or more days and times you CAN attend another lab section — check the Schedule of Classes on the UT website to see when other lab sections are offered and whether there is room for you to attend that lab. If you know in advance you will be absent due to travel, job conflicts, etc., send e-mail as soon as you can to maximize your chances of getting into another section. It will not always be possible to do so.

ADHERENCE TO SAFETY POLICY
Failure to follow the safety rules and policies will directly affect your grade.

- The first instance of failure to comply with these safety rules and/or policies will result in an immediate ten-point deduction for that laboratory exercise and possible expulsion for that day.
- A second violation will result in expulsion from the laboratory and a grade of zero being given for the laboratory exercise for that day.
- If there are further violations, the instructor can assign a failing grade for the course.

EXCUSED ABSENCE POLICY
You must fill out and submit an Excused Absence Request (EAR) form for each absence within two weeks of your return to campus.

Should you miss a lab, submit an EAR form (a copy is provided via Blackboard, as well as in each course section of the lab manual) and supporting documentation to the instructor via the department secretary in BO 2022. Do NOT give it to your TA. The lab report and any other papers that were due that day are to be attached to the EAR form. Your final grade for the course will be calculated based on the work you submit during the semester; your “Grade To Date” in the Blackboard grade center may be lower than your actual grade until the end of the semester.

If you miss a lab, you may make it up only by attending another lab section during the same week that particular experiment is scheduled. It is up to you to make these arrangements with your instructor, either in person or via e-mail. There are no lab periods designated as make-up labs, but there will be an extra credit assignment available at the end of the semester that may be used to partially replace the points for an unexcused absence.

Excused absences will be granted when school-related academic or athletic activities, medical problems, or other similar emergencies cause you to be absent. Absences due to work, schedule conflicts or family vacations will not be excused. No more than two excused absences per student per semester will be granted and no excused absences will be granted for the lab practical. Excused absence requests that are received more than four weeks after the absence and those with no supporting documentation will not be approved. All excused absence forms with attached supporting documentation must be submitted no later than the Friday before the lab practical.

E-MAIL POLICY
Most of the communication outside of the laboratory takes place via e-mail.

Teaching assistants (TAs) are required to check and reply to your e-mail at least once daily Monday–Friday, between 9 am and 8 pm, weekends at a time that best fits their schedule. Part-time instructors who are TAs will let you know when they will check and reply to your e-mail. Your instructor will check her e-mail and reply frequently Tuesday–Friday between 10:30 am and 3 pm, and late Sunday evening. If you have not received a reply from your TA within 48 hours, send the e-mail again and copy your instructor on the e-mail. Please understand that you may not get a reply from your instructor within 48 hrs. based on the day and time you
send the e-mail. If you do not get a reply within a few days, check that you used the correct e-mail address and that the e-mail was actually sent by your device. Feel free to resend the e-mail or stop by her office to see whether the e-mail was actually received.

If you need help urgently, please put URGENT in the subject line of your e-mail. An emergency that will prevent you from attending lab is considered to be an urgent situation, issues with data entry, calculations and deadlines are not considered to be urgent situations. We will do our best to help you quickly. Plan your time accordingly so you can get help from your TA and/or instructor in plenty of time ahead of the deadline.

**LATE WORK POLICY**
All assignments are due either online at 11 pm the evening before lab or upon entry to the lab. *Late work will not be accepted.*

If necessary, you may submit papers that were due at the beginning of lab to your TA’s mailbox via the department secretary in BO 2022 by no later than 5 pm of the same day for a ten-point deduction; evening classes have until 12 pm the following day to submit their papers. This policy is to be used only as an exception, e.g., papers were left at home. Should this late submission become a regular occurrence, the submitted papers will be deemed late and will not be accepted for grading. In the event of an excused absence, work that was due (previous week’s lab) is to be submitted with the Excused Absence Request form. If the experiment is made up in another section that week, work that is due that day is to be submitted to the TA in charge of the other section.

**ACADEMIC DISHONESTY**
*Academic Dishonesty* is defined by the university’s policy as specified in the university’s catalog. The rules of academic honesty will be strictly enforced. Academic dishonesty includes cheating by copying from any other student — past or present. All work submitted must be the work of the individual submitting it. Academic dishonesty will result in a score of zero for an assignment and/or lab and can further result in a failing grade in the course that cannot be deleted from the student’s transcript.

**CLASS STRUCTURE AND COURSE EXPECTATIONS**
Upon entry to the lab, you **must** be properly attired, including safety goggles.

For the first week in lab (the second week of the semester), your lab report from the previous week is due online at 11 pm the evening before your lab at www.chem21labs.com, the graph from Exp. 1 is due at the beginning of lab. The online pre-lab assignment for experiment 2 is also due at 11 pm the evening before your lab. If your pre-lab is not complete, you will not be admitted to lab.

Backpacks, coats, and other bulky items go immediately into the storage cubes at either entrance to the lab. Cell phones are to be set to silent; texting, etc. is not allowed in lab. No headphones or ear buds are allowed in lab. *Only* your lab manual and papers needed for lab, calculator, and pen are allowed at your workspace in the hood. Once everyone has been admitted to the lab, your TA will briefly review the safety hazards and critical steps of the experiment. *Pay attention and take notes* during this presentation so you do not lose valuable time during the experiment repeating steps. Once you are done with the experiment, use the remaining time to complete the assigned experiment. Plan on being in lab each week for the full lab period – most labs are designed for you to complete the lab during your assigned lab section.

Data Sheets are to be completed in the laboratory in blue or black indelible ink; mistakes are crossed out with one line, and the correct value is written above or beside the incorrect value. Illegible work will not be graded. You are responsible for cleaning your hood space and any assigned lab areas prior to leaving the lab. When done, present your Data Sheet(s) to your TA for his/her initials. All Data Sheets must be initialed by the TA before you leave the laboratory; a Data Sheet with no initials will *not* be accepted and a grade of zero will be awarded for that portion of the lab. You may remove your goggles once you are outside the lab.

Each online assignment is due at 11 pm the evening before you go to lab. Do not wait until the last day to work
on the online assignments. Your failure to login, access, or complete the assignments before the deadline will not excuse you from meeting the assigned deadline. When working on these assignments, it is highly recommended you do all of your work in your lab manual before entering the answers online. This will save you time at the website, reduce errors and loss of points, make it easier to find your mistake if a calculation is incorrect, and make it easier to redo everything if something goes wrong.

Remember that writing formulas, chemical names and balanced chemical equations must be written (entered on a computer) correctly in order to get full credit. Your teaching assistant (TA) does not grade your work in Chem21; each question is graded by a different TA. Any questions you have about grading or scores in your grade book should be addressed with your TA first, then with your instructor if you still have concerns or questions.

If you enter data incorrectly, you can correct it, but you will have to redo all of the calculations that follow the use of that data. It is important to remember that you must enter all of your data and confirm it before you can move on to answer any of the questions or do the calculations. Once you have confirmed your data has been entered correctly — watch the units! — you can answer the essay questions in any order, but the calculations and the balanced equations must all be done in order. Make sure you have not skipped any problems or questions — there will be a red message at the top of the screen that will tell you your work is incomplete if you do so. The questions on the screen may be slightly different than those in your lab manual or on your friend’s screen. Be sure to answer the question that is displayed on the screen! Please wait until the score for an assignment has been posted in the grade book in Blackboard before contacting your TA or instructor about the grading of the assignment. The score in Chem21 may be low because grading is not yet complete.

It is your responsibility to know which assignment is due when and where. There are multiple sources that list these deadlines: the Experiment Schedule, the weekly PowerPoint presentation in lab, and the posted PowerPoint presentation online in Blackboard, and Chem21. Some TAs send out reminders about upcoming deadlines via e-mail. The failure of the TA to send out such a reminder does not remove you from your responsibility to know that an assignment is due. Be sure to check your UT Rockets e-mail frequently so you do not miss important information.

Should you miss the deadline for completing the online pre-lab assignment for one of the labs in Week 2 or 3 of the semester, you may complete the pre-lab assignment that is in the lab manual, for zero points. Starting with Week 4, you must complete the online pre-lab assignment to get into lab.

There are no regularly scheduled office hours during the week of the lab practical. During the week of the lab practical you may contact the instructor with your questions via e-mail or schedule an appointment to discuss them. Any questions or concerns about grading, missing scores, etc. must be addressed with the instructor of the course, not the TA, no later than the Friday before the week of the lab practical.

You have the opportunity to earn 5 extra credit points for most labs by writing the procedure for the lab in your own words and using this procedure, not the lab manual, during lab. You must put your own procedure in flowchart form. This procedure is turned in the following week with the other papers that are due and credit will be assigned during the grading of the lab report. Copying the procedure from the lab manual is not valid work; a score of zero points will be awarded if you do this.

A Sample Final and a Key to Sample Final will be available on Blackboard at the end of the semester. These are provided to you so you can see some of the question types on the lab practical. While you may use this as a study tool for the lab practical, do not lean on it too much. Because of this, few students have gotten an “A” on the lab practical. Questions have changed over the years, particularly in the last section of the practical. This is a lab course — you will be tested on your knowledge of the proper use of equipment, safety, observations of reactions and conclusions. While you will need to be able to do the various calculations you did in lab on the practical, the practical will focus on your logical thinking skills, not your calculation prowess.
ASSIGNMENT OF COURSE GRADE

Your grade will be based on your lab reports, quizzes and a lab practical. Lab report grades include pre-laboratory questions and/or quiz, Data Sheets, graphs, if any, and post-laboratory questions, which include the analysis of the data collected. Most labs are worth 80 pts. as follows: 10 pts. for the pre-laboratory assignment and/or quiz, 20 pts. for the post-laboratory assignment, and 50 pts. for the rest of the lab (lab completion, data work-up, unknown assignment). The average score on an 80-pt. lab is 69 pts. Doing average work and turning in your assignments on time will result in a grade of “B.” Consistent improvement throughout the semester and a high score on the lab practical will generally result in a grade of “A−” or “A.”

As part of this course you will receive a score called “Laboratory Assessment.” Throughout the semester your TA will observe your skills when working with the various pieces of equipment and performing reactions. The score is based on your improvement throughout the semester. The average for this assessment is 18 pts.

Course Points will be distributed in the following manner:

<table>
<thead>
<tr>
<th>Assignment/Assessment</th>
<th>Points</th>
<th>% of Final Grade</th>
<th>SLO Alignment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Safety Quiz</td>
<td>20 pts.</td>
<td>2%</td>
<td>1, 2</td>
</tr>
<tr>
<td>Comprehensive Lab Practical</td>
<td>100 pts.</td>
<td>8%</td>
<td>1 – 7</td>
</tr>
<tr>
<td>Lab report, 12 @ 80 points each</td>
<td>960 pts.</td>
<td>80%</td>
<td>2 – 7</td>
</tr>
<tr>
<td>Graphing Lab, Experiment 1</td>
<td>50 pts.</td>
<td>4%</td>
<td>6 – 7</td>
</tr>
<tr>
<td>Group Project</td>
<td>50 pts.</td>
<td>4%</td>
<td>7 – 8</td>
</tr>
<tr>
<td>Laboratory Assessment</td>
<td>20 pts.</td>
<td>2%</td>
<td>1 – 3</td>
</tr>
<tr>
<td>Total possible points</td>
<td>1200 pts.</td>
<td>100%</td>
<td></td>
</tr>
</tbody>
</table>

In order to complete this course with a grade of C+ or higher, you will need to:

- Achieve a score of 50% or higher on the comprehensive lab practical.
- Achieve at least 75% of the total points for the course.

College laboratory classes often have lower grade averages and wider ranges than those in high school. While the average grade in lab is a B, it is common for some students to receive a lower grade.

You can monitor your grade throughout the semester via the online grade book in Blackboard. Students who have a grade of D or below will have a mid-term grade reported during the 5-8th week of the semester. This grade notification does not appear on your transcript; its purpose is to notify you of your academic standing in the class. Attendance is also recorded during the Midterm Grading Period. This reporting is done in compliance with state and federal and federal laws regarding financial aid disbursement. Please note: if you are not attending class it could impact your financial aid (scholarships, grants, loans or Federal Work Study).

If you decide you are not going to attend this class (or any other class you have registered for), you must formally withdraw (drop) from the course. You can do this by logging onto the MyUT portal, clicking on the “Student” tab, and then under My Toolkit clicking on Register/Drop/Withdraw. For more information about add/drop dates please visit the Registrar's Office online at:

http://www.utoledo.edu/offices/registrar/registration_dates.html.

It is your responsibility to ensure every entry made by your TA is correct. The deadline to report any error to the instructor of the course is 5 pm of the Friday before the laboratory practical. At the end of the semester a Final Grade will appear in Blackboard. You will have two days to notify your instructor via e-mail of an error in your final grade. Once the grades are uploaded to the official UT grade system, grade changes can no longer be done quickly.

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NOTE: While we try very hard to ensure the Grade to Date shown in Blackboard is correct, mistakes do happen. Verify your grade by dividing your Total Points to Date by the Points Possible to Date, and multiplying by 100.

Although our many TAs grade according to one scale, some adjustments might be necessary at the end of the semester. This will be done on a section-by-section basis. Final grades are determined by the instructor. The following is a general guideline:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>A, A–</td>
<td>90–100%</td>
</tr>
<tr>
<td>B+, B–</td>
<td>80–89%</td>
</tr>
<tr>
<td>C+, C–</td>
<td>70–79%</td>
</tr>
<tr>
<td>D+, D–</td>
<td>60–69%</td>
</tr>
<tr>
<td>F</td>
<td>&lt;60%</td>
</tr>
</tbody>
</table>

Course drop and withdrawal procedures have been set by the University of Toledo. The Experiment Schedule that will be handed out during the first day of lab and is posted on Blackboard lists the drop and withdrawal deadlines for the course. You can also find these deadlines on the UT website, under the Academic Calendar. There are no office hours during the week of the lab practical: schedule an appointment if you need to see me.

ACADEMIC POLICIES
As a student at The University of Toledo you should be familiar with the policies that govern the institution’s academic processes, for example, Academic Dishonesty, Enrollment Status, and Grades and Grading. Please read Undergraduate Academic Policies.

Students are expected to attend every class meeting of courses in which they are registered. Please read the Missed Class Policy.

UNIVERSITY POLICIES
The University is an equal opportunity educational institution. Please read The University’s Policy Statement on Nondiscrimination on the Basis of Disability Americans with Disability Act Compliance.

ACADEMIC ACCOMMODATIONS
The University of Toledo is committed to providing equal access to education for all students. If you have a documented disability or you believe you have a disability and would like information regarding academic accommodations/adjustments in this course please contact the Student Disability Services Office.

GENERAL ASSISTANCE
The General Chemistry Secretary, Ms. Pam Samples, in BO 2022, tel: 419-530-2109, can assist you if you have further questions or if you need assistance. If you have special needs, please contact me as soon as possible so we can work together on matching lab to your needs. I will gladly work with you and the Office of Student Disability Services to accommodate your needs.

ACADEMIC SUPPORT SERVICES
The University of Toledo offers a wide range of academic and student support services to help you succeed:

Chemistry Help Center
The Chemistry Help Center in BO2043 offers free help from chemistry graduate students and teaching assistants. It is staffed Monday through Thursday from 9 am until 8 pm and on Friday from 9 am until 4 pm. Each teaching assistant, with the exception of part-time instructors who generally teach in the evening, is required to schedule at least two hours of time, designated as office hours, which are held in the Help Center. Your instructor also provides help during her office hours (see top of syllabus) as well as by e-mail.

Discussion Boards and E-mail within Blackboard
Discussion boards and e-mail within Blackboard allow you to communicate 24/7 with your classmates and teaching assistant so you can get quick answers to your questions before and after lab.
University Libraries

University Libraries are your gateway to information at The University of Toledo connecting you with the resources you need for education, research, and patient care.

Tutoring Services
Free tutoring support for all UT students is available through the Learning Enhancement Center located in the Carlson Library. Tutoring Services are offered in an array of subjects, including Writing, Math (Calculus, Statistics, Accounting) Biology, Chemistry, and Anatomy and Physiology. Further information and schedules will be posted in Blackboard as they become available.

The Writing Center
The Writing Center provides free, face-to-face and online tutoring for writers in all disciplines. The staff there can assist you with a variety of writing assignments.

The Counseling Center
Transitioning to college and/or maintaining a healthy well being while attending college can be difficult, if you or a friend ever feel overwhelmed adjusting to college or in need of crisis intervention or mental health services please contact the Counseling Center.

SAFETY AND HEALTH SERVICES FOR UT STUDENTS
A number of different health and safety services are available to UT students. For a complete list, go to http://www.utoledo.edu/offices/provost/utc/docs/CampusHealthSafetyContacts.pdf. Other information that is presented to you in class will also be available to you in Blackboard.

COURSE SCHEDULE – check the schedules that follow for the schedule that is the day of your lab.
## Experiment Schedule – 1280 Tuesday Labs

<table>
<thead>
<tr>
<th>Date</th>
<th>Exp No.</th>
<th>Title</th>
<th>Other Dates</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/16</td>
<td>1</td>
<td>Introduction, Safety Video Representing Data Graphically</td>
<td>Chem21 Safety Quiz: MON, Jan. 22</td>
</tr>
<tr>
<td>1/23</td>
<td>2</td>
<td>Check-in Relating Mass and Volume</td>
<td>Jan. 30: Last Day to Drop</td>
</tr>
<tr>
<td>1/30</td>
<td>4</td>
<td>Preparation of Strontium Iodate Monohydrate</td>
<td></td>
</tr>
<tr>
<td>2/6</td>
<td>5</td>
<td>Spectrophotometric Analysis of Permanganate Solutions</td>
<td></td>
</tr>
<tr>
<td>2/13</td>
<td>3</td>
<td>Detecting Signs of Chemical Change</td>
<td></td>
</tr>
<tr>
<td>2/20</td>
<td>6</td>
<td>Single Replacement Reactions and Relative Reactivity</td>
<td></td>
</tr>
<tr>
<td>2/27</td>
<td>7</td>
<td>Introducing the Qualitative Analysis of Group of Cations</td>
<td></td>
</tr>
<tr>
<td>3/6</td>
<td></td>
<td>UT Spring Break – no classes</td>
<td></td>
</tr>
<tr>
<td>3/13</td>
<td>8</td>
<td>Physiologically Important Anions</td>
<td></td>
</tr>
<tr>
<td>3/20</td>
<td>9</td>
<td>Titrating Vinegar</td>
<td></td>
</tr>
<tr>
<td>3/27</td>
<td>10</td>
<td>Aqueous Solutions</td>
<td>Mar. 30: Last Day to Withdraw</td>
</tr>
<tr>
<td>4/3</td>
<td>11</td>
<td>Estimating the Calorie Content of Nuts</td>
<td>Make-up Practical (50 pts. max)</td>
</tr>
<tr>
<td>4/10</td>
<td>12</td>
<td>Separating and Recovering the Components of a Ternary Mixture</td>
<td>Group Project due in Bb*</td>
</tr>
<tr>
<td>4/17</td>
<td>13</td>
<td>Determining the Molar Volume of Carbon Dioxide</td>
<td>Check-out</td>
</tr>
<tr>
<td>4/24</td>
<td></td>
<td>LAB PRACTICAL - Computer required</td>
<td>NO EXCUSED ABSENCES THIS WEEK!</td>
</tr>
</tbody>
</table>

Make sure your work and vacation schedules do NOT conflict with the date of the Lab Practical.

* All online work is due the evening before lab at 11 pm.
### Experiment Schedule – 1280 Thursday Labs

<table>
<thead>
<tr>
<th>Date</th>
<th>Exp No.</th>
<th>Title</th>
<th>Other Dates</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/18</td>
<td>1</td>
<td>Introduction, Safety Video Representing Data Graphically</td>
<td></td>
</tr>
<tr>
<td>1/25</td>
<td>2</td>
<td><strong>Check-in</strong> Relating Mass and Volume</td>
<td>Jan. 30: Last Day to Drop</td>
</tr>
<tr>
<td>2/1</td>
<td>4</td>
<td>Preparation of Strontium Iodate Monohydrate</td>
<td></td>
</tr>
<tr>
<td>2/8</td>
<td>5</td>
<td>Spectrophotometric Analysis of Permanganate Solutions</td>
<td></td>
</tr>
<tr>
<td>2/15</td>
<td>3</td>
<td>Detecting Signs of Chemical Change</td>
<td></td>
</tr>
<tr>
<td>2/22</td>
<td>6</td>
<td>Single Replacement Reactions and Relative Reactivity</td>
<td></td>
</tr>
<tr>
<td>3/1</td>
<td>7</td>
<td>Introducing the Qualitative Analysis of Group of Cations</td>
<td></td>
</tr>
<tr>
<td>3/8</td>
<td></td>
<td><strong>UT Spring Break – no classes</strong></td>
<td></td>
</tr>
<tr>
<td>3/15</td>
<td>8</td>
<td>Physiologically Important Anions</td>
<td></td>
</tr>
<tr>
<td>3/22</td>
<td>9</td>
<td>Titrating Vinegar</td>
<td></td>
</tr>
<tr>
<td>3/29</td>
<td>10</td>
<td>Aqueous Solutions</td>
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</tr>
<tr>
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<td>11</td>
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<td>4/12</td>
<td>12</td>
<td>Separating and Recovering the Components of a Ternary Mixture</td>
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</tr>
<tr>
<td>4/19</td>
<td>13</td>
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<td>Check-out</td>
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<tr>
<td>4/26</td>
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