General Chemistry I Lab CHEM 1111-21

Dr. Chen Lin
Fall 2019
chen.lin@utrgv.edu  Office: ESCNE 3.104

Class
W 10:55 am - 1:35 pm ESCNE 3.250  MTWR 9:30 am – 10:30 am & 2:00 pm – 3:00 pm

*Course Syllabus may be subject to change.

Required Lab Manual
General Chemistry Laboratory Manual: CHEM 1111, J. A. Beran, 10th ed
Publisher: John Wiley & Sons, Incorporated  ISBN: 9781118986431
Available at UTRGV Bookstore
*If you buy a different edition – you are responsible to keep up with any changes.

Course Description and Prerequisites
Introduction to laboratory techniques of chemical experimentation.
Must have passed or have concurrent enrollment in Chemistry 1311.

Lab Schedule

<table>
<thead>
<tr>
<th>Lab. #</th>
<th>Date</th>
<th>Activity</th>
<th>Items Due</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Sep 4</td>
<td>Safety video &amp; Syllabus</td>
<td>Sign Safety Contract</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Assign presentations.</td>
<td>Safety Quiz</td>
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<tr>
<td></td>
<td></td>
<td>CHECK-IN</td>
<td>Check-in Sheet</td>
<td></td>
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<tr>
<td>1</td>
<td>Sep 11</td>
<td>EXP 1  [Basic Lab Operations]</td>
<td>EXP 1 prelab</td>
<td>Skip Part B</td>
</tr>
<tr>
<td>2</td>
<td>Sep 18</td>
<td>EXP 7  [Empirical Formulas]</td>
<td>EXP 7 prelab</td>
<td>Skip Parts C &amp; D</td>
</tr>
<tr>
<td>3</td>
<td>Sep 25</td>
<td>EXP 8  [Limiting Reactant]</td>
<td>EXP 8 prelab</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>EXP 7  Report</td>
<td>EXP 7 Report</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Oct 2</td>
<td>EXP 28 [Chemistry of Copper]</td>
<td>EXP 28 prelab</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>EXP 8  Report</td>
<td>EXP 8 Report</td>
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</tr>
<tr>
<td>5</td>
<td>Oct 9</td>
<td>EXP 6  [Acids &amp; Bases]</td>
<td>EXP 6 prelab</td>
<td>Skip Parts A1 &amp; B2,3</td>
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<tr>
<td></td>
<td></td>
<td>EXP 27 Report</td>
<td>EXP 28 Report</td>
<td>Skip Part C (pH Water)</td>
</tr>
<tr>
<td>6</td>
<td>Oct 16</td>
<td>MIDTERM EXAM (1 HOUR) [Labs 0-5]</td>
<td>EXP 27 prelab</td>
<td>Skip Part A</td>
</tr>
<tr>
<td></td>
<td></td>
<td>EXP 27 [Redox]</td>
<td>EXP 6 Report</td>
<td>Do Parts B &amp; C</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Oxidation state assignment</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Oct 23</td>
<td>EXP 9  [A Volumetric Analysis]</td>
<td>EXP 9 prelab</td>
<td>Skip Part A-3 &amp; 6-8</td>
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<tr>
<td></td>
<td></td>
<td>EXP 27 Report</td>
<td>EXP 27 Report</td>
<td>Do Parts A4&amp;A5 and B</td>
</tr>
<tr>
<td>8</td>
<td>Oct 30</td>
<td>EXP 13 [Calcium Carbonate]</td>
<td>EXP 13 prelab</td>
<td>*Use Appendix C</td>
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<tr>
<td></td>
<td></td>
<td>EXP 9  Report</td>
<td>EXP 9 Report</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Nov 6</td>
<td>EXP 25 [Calorimetry]</td>
<td>EXP 25 prelab</td>
<td>Skip Part C</td>
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<tr>
<td></td>
<td></td>
<td>EXP 13 Report</td>
<td>EXP 13 Report</td>
<td>Excel Graph</td>
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<tr>
<td>10</td>
<td>Nov 13</td>
<td>EXP 11 [Periodic Table]</td>
<td>EXP 11 prelab</td>
<td>Skip Part C: IR</td>
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<tr>
<td></td>
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<td>DRY LAB 3 [CHECK-OUT]</td>
<td>EXP 11 Report</td>
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<td>EXP 11 Report</td>
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<td>Nov 20</td>
<td>Final Exam [Labs 6-10]</td>
<td>VSEPR Work Sheet</td>
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</table>
Learning Objectives/Outcomes for the Course

- To understand and apply method and appropriate technology to the study of natural sciences.
- To recognize scientific and quantitative methods and the differences between these approaches and other methods of inquiry and to communicate findings, analyses, and interpretation both orally and in writing.
- To identify and recognize the differences among competing scientific theories.
- To demonstrate knowledge of the major issues and problems facing modern science, including issues that touch upon ethics, values, and public policies.
- To demonstrate knowledge of the interdependence of science and technology and their influence on, and contribution to, modern culture.

Learning Objectives for Core Curriculum Requirements

In addition to these content learning outcomes above, there are several specific learning objectives for this course. These are to develop critical thinking skills, communication skills, empirical and quantitative skills, and teamwork skills.

This course meets 1 hour of the core requirement for Integrative and Experiential Learning Courses (up to 3 hours from science labs) in this category involve interdisciplinary topics or approaches and/or learning through direct experience.

Science Labs: maximum 3 hours; offered in conjunction with science courses listed in the Life and Physical Sciences component area

Safety Regulations

- Safety Glasses – protective eye wear is required when an experiment is conducted. You may purchase safety glasses from the Bookstore or at various department stores in the hardware or garden sections. All students are required to purchase and wear safety glasses during lab. If you wear contact lenses or prescription eyeglasses you must still wear lab glasses or goggles to protect your eyes.
- Lab Coat – Non-flammable garments. NO synthetic fibers or loosely woven natural fibers.
- Shoes – Only closed toed and heeled shoes are to be worn in the laboratory. If you come to lab wearing sandals, you will not be allowed to work.
- Long Pants – No part of the legs should be exposed. No Leggings, Jeggings, Yoga pants, Capris, or Shorts.
- ABSOLUTELY NO food, drink, or gums will be allowed in the laboratory!
- NO horseplay or unauthorized experiments.
- Locate and know how to use the safety equipment. Use these only in the event of an emergency.
- Dispose wastes appropriately according to instructions.
- If there is a chemical spill, inform the instructor immediately.
- If you are injured (a cut, inhalation of toxic gases, acid burn on skin, etc.) inform your instructor immediately.
- Before leaving lab for the day, clean all lab benches and glassware used during the experiment.
- Mandatory Safety Quizzes: Students must view Video on Safety and online Environmental Health and Safety Quiz by Michelle Guglielmo.

The department of Environmental Health, Safety and Risk Management provides Laboratory Safety Training online through Blackboard. This 2-hour mandatory Laboratory Safety Online Training and comprehensive exam must be successfully completed prior to working with chemicals in a university laboratory environment.

Instructions to complete the UTRGV Basic Laboratory Safety / Hazard Communication Training:
1. Log on to myUTRGV.
2. Click on the Blackboard icon.
3. Select the organization Environmental Health, Safety and Risk Management.
If the EHSRM link does not appear, follow instructions below on “How to Self-Enroll”.
4. Click on “Laboratory Safety/Hazard Communication (Bio, Chem, SOM, Nursing, PA)”.
5. View the presentation entitled “Laboratory Safety Presentation for Students (Bio, Chem, SOM, Nursing, and PA Labs) and Employees”.
6. Take the corresponding Laboratory Safety Quiz for Bio, Chem, SOM, Nursing, and PA 2018 until you have earned an 80% or better.

Note: Do not use a cell phone or tablet to complete this online training. Make sure you have a secure internet connection when viewing the material. Ensure that your browser (Google Chrome, Firefox, etc.) is the latest version and that your browser history has been recently cleared.

Course Requirements, Rules, and Regulations
– You **MUST** be informed of the laboratory safety rules and regulations before you will be allowed to enter a laboratory on this campus. If you miss the first lab period consisting of the safety film and lecture, you must contact your professor immediately to schedule a time to view the film and go over the rules. **YOU WILL NOT BE PERMITTED TO PARTICIPATE IN LABORATORY UNTIL YOU HAVE WATCHED THE SAFETY FILM. THERE ARE NO EXCEPTIONS.**
– There is a short safety and technique discussion and demonstration at the beginning of each lab period. If you come to lab late and completely miss it, you will not be allowed to participate in lab. **Arrive on time!**
– **Attendance Policy:** It is in your best interest for your success to make it your highest priority to be in lab for each lab period this semester. You are required to do all the laboratory experiments at the scheduled time.
– A physician’s written excuse on letterhead stationery or written documentation from a UTRGV administrative office is required before any missed labs or exams can be made up.
– Make-up Policies: LIMIT: 2 MAKE UP LABS. Make Ups are done during week Experiment is running ONLY. Follow Make Up Sheet.
– **Balances** – If you spill anything on a balance, it should be cleaned up immediately. If you need help, please notify the lab assistant.
– **Chemicals** – In order to assure that all labs have the same chance of success during experiments, great care should be taken when handling chemicals. Assume all pipettes, scoopulas, and spatulas are dirty and contaminated unless you have personal cleaned them. **Lids should be replaced on chemicals immediately after they are opened to keep moisture and contaminates out.**
– **Use of Electronic Equipment in Class:** You may NOT operate and use an MP3 player during exams or lab. If you bring a cellular telephone to class you must turn off the bell.
– On some occasions you may be working in pairs or small groups to collect the data. It is not the responsibility of one partner to complete the entire assignment for the other partner(s). All lab work must be shared equally.
– Students working in the same group may share data and work together in writing up an experiment, however each student **must** turn in his/her own lab report. Violation to this rule will result a zero in the corresponding lab report score.
– If you forget/lose/misplace/etc. your lab report you may **NOT** make a photocopy of your lab partner’s data sheet to turn in.
– Blackboard is your responsibility. If you are not on Blackboard – submit a Helpdesk Ticket at utrgv.edu/coltthelp or call (956) 665-5327.
Grading
Letter grades are given based on following scale:
A ≥ 90, 90 > B ≥ 80, 80 > C ≥ 70, 70 > D ≥ 60, F < 60

The distribution of the course grade is as follows:
Pre-lab Quizzes 5%
Presentation/Helper 5%
Journal 10%
Wet Lab/Attendance 10%
Mid-term exam 20%
Final exam 20%
Lab Report 30%

Pre-Lab Quizzes
Pre-lab quiz will be administered online (Blackboard) for each lab. The quiz window will close on the time of the lab. If you missed or late submission = 0 points. You must submit your answers by 10:55 am on Wednesday. The quizzes will NOT be re-opened for ANY reason. Give yourself time just in case something goes wrong with your connection or computer problems or the weather, etc. If you have any problems on the Blackboard access, immediately submit a Helpdesk ticket.

Presentation/Helper: Include changes on Blackboard
(10 pt): Handout must be approved by instructor face to face several days before lab day!
Do not meet if you don’t have anything prepared.
(20 pt): Make enough handouts to distribute. Include your names.
(40 pt): Help present Objective & Procedure with Important Details.
Highlight important parts of Experiment, Lab Techniques, and Calculations.
(30 pt): Know experiment very well and walk around during lab to get full credit!
Check data sheets to make sure everyone is working well.
At lab end – Return chemicals to back bench. Check student stations and sinks.
Helpers are also responsible for collecting journals and handing graded lab reports back.
*Collect your Data from group of choice to complete Your Lab report.

Journal
Handwrite procedures on a notebook. Do not copy from lab manual. Use your own words. Print version not acceptable. Due at start of experiment. Include changes on Blackboard.
Helpers don’t need to do this part in the experiment they will present. Journal score for presenters is based on handouts prepared.

Wet Lab
Participate in each experiment (No virtual labs). Collect your data in Lab Report sheets from Lab Manual.

Exams
2 exams will be given throughout the semester. They will be held during the regular meeting time of the course, and in the regular meeting place of the course, as indicated at the start of this syllabus. There will be about 20 multiple choices questions + some extra credit questions.
For all exams, a periodic table and important constants and equations will be provided to you. You will need your ID, a No. 2 pencil, an eraser, a calculator, and a scantron with you. The type of scantron you need to obtain is 100 Q DataLink 3000 and SideKick Answer Sheet (29240). You can purchase in bookstore. If it is not on shelf, you can ask for “Chemistry Scantron”. No other materials or devices are allowed. You cannot use cellphone as a calculator during an exam. If you use the wrong type of scantron or fail to bring a scantron, you will have 5 pt deduction in your exam score.
During the exam, you need to mute or turn off your cellphone/laptop/tablet, put it in your backpack, and put backpacks in the front of classroom. No food, drink, or chewing gums allowed. You should not sit right next to each other; make sure there is some space between you and your neighbor.

Make up exams, including exams to be taken early, will only be given due to one of the following conditions:
1. you have a major medical illness requiring immediate treatment;
2. there is a death of an immediate family member;
3. you must participate in a required university activity;
4. you are observing a religious holy day;
5. you are currently serving in the military.

Documentation is required for all of these cases. In the cases of your illness or a family member’s death, documentation is required when you return to campus. In the case of a required university activity, a religious holy day, or military service, documentation is required at least one week prior to the activity. In case a make-up exam is given, it will be at the discretion of the instructor and at a time convenient to her schedule. Please note, however, that a makeup exam might be different than the regularly scheduled exam.

Lab Report
Lab reports via email are NOT acceptable. You must turn in a hard copy. There are total 50 points for each lab report. Detailed instruction for each lab report is on Blackboard.

Late work will be subject to automatic loss of points (with a deduction of 30%—you will get your grade $\times 0.7$) if you submit within one week after due date. Any lab reports submitted one week later than the due date will receive a zero score.

Safety regulation violation, e.g. failure to bring safety glasses/goggles and/or lab coat, improper dressing, food and drink in lab, etc. (check syllabus and safety agreement), will result in 1 pt deduction from the corresponding lab report for each instance.

– OBJECTIVE: Purpose of experiment. Be specific. Include names of chemicals used. Read the manual’s objective and use a guide only. Do not include skipped parts. Keep it short and brief. 2-3 sentences. You can type and print this part.
– INTRODUCTION: Write 2 paragraphs. Include important terms and definitions. Use complete sentences. 5-10 sentences. You can type and print this part.
– DATA SHEET: Make copy of blank lab manual report sheets. Bring with you to the lab. Input data into report sheets during experiment. This part has to be hand-writing.
– CALCULATIONS: write formula $\rightarrow$ input data $\rightarrow$ block in final answer with proper units. Follow correct significant figures. Reports without calculations will not be accepted! This part has to be hand-writing.
– Answer assigned QUESTIONS. You can type and print this part.
– CONCLUSION: show your results (number or observation). Explain meaning of results. Use completely sentences. 5-10 sentences. You can type and print this part.
  Ex: the density is… Compare to expected results, are results good? Why?

* Lab 10 report doesn’t follow above guidelines.

Extra Credits
In chemical formulas and units, format is very important, like superscripts/subscripts/parenthesis/capital letter or lower case, etc. If no such mistakes appear in printed part of the lab report, there will be a 3 pt bonus. This also applies to helpers’ material and presentations. However, this rule doesn’t apply to a lab report without any printed formulas or units.

There are two extra credit assignments. Each of it will add at most 10 pt to the exam.

Oxidation State Assignment 10 pt in Mid-Term Exam
VSEPR Work Sheet 10 pt in Final Exam
Fall 2019 Academic Calendar
August 26       First day of classes
August 29       Last day to add a course or register for Fall 2019
September 2     Labor Day Holiday – NO classes
November 13     Last day to drop a course; will count toward the 6-drop rule
November 28-29  Thanksgiving Holiday – NO classes
December 5      Study Day – NO classes
December 6-12   Final Exams
December 13-14  Commencement Exercises

STUDENTS WITH DISABILITIES:
Students with a documented disability (physical, psychological, learning, or other disability which affects academic performance) who would like to receive academic accommodations should contact Student Accessibility Services (SAS) as soon as possible to schedule an appointment to initiate services. Accommodations can be arranged through SAS at any time, but are not retroactive. Students who experience a broken bone, severe injury, or undergo surgery during the semester are eligible for temporary services.

Pregnancy, Pregnancy-related, and Parenting Accommodations
Title IX of the Education Amendments of 1972 prohibits sex discrimination, which includes discrimination based on pregnancy, marital status, or parental status. Students seeking accommodations related to pregnancy, pregnancy-related condition, or parenting (reasonably immediate postpartum period) are encouraged to contact Student Accessibility Services for additional information and to request accommodations.

Student Accessibility Services:
Brownsville Campus: Student Accessibility Services is located in 1.107 in the Music and Learning Center building (BMSLC) and can be contacted by phone at (956) 882-7374 or via email at ability@utrgv.edu.
Edinburg Campus: Student Accessibility Services is located in 108 University Center (EUCTR) and can be contacted by phone at (956) 665-7005 or via email at ability@utrgv.edu.

MANDATORY COURSE EVALUATION PERIOD:
Students are required to complete an ONLINE evaluation of this course, accessed through your UTRGV account (http://my.utrgv.edu); you will be contacted through email with further instructions. Students who complete their evaluations will have priority access to their grades. Online evaluations will be available on or about:
Full Fall Semester November 14th – December 4th

ATTENDANCE:
Students are expected to attend all scheduled classes and may be dropped from the course for excessive absences. UTRGV’s attendance policy excuses students from attending class if they are participating in officially sponsored university activities, such as athletics; for observance of religious holy days; or for military service. Students should contact the instructor in advance of the excused absence and arrange to make up missed work or examinations.

SCHOLASTIC DISHONESTY:
As members of a community dedicated to Honesty, Integrity and Respect, students are reminded that those who engage in scholastic dishonesty are subject to disciplinary penalties, including the possibility of failure in the course and expulsion from the University. Scholastic dishonesty includes but is not limited to: cheating, plagiarism (including self-plagiarism), and collusion; submission for credit of any work or materials that are attributable in whole or in part to another person; taking an examination for another person; any act designed to give unfair advantage to a student; or the attempt to commit such acts. Since scholastic dishonesty harms the individual, all students and the integrity of the University,
policies on scholastic dishonesty will be strictly enforced (Board of Regents Rules and Regulations and UTRGV Academic Integrity Guidelines). All scholastic dishonesty incidents will be reported to Student Rights and Responsibilities.

**SEXUAL MISCONDUCT and MANDATORY REPORTING:**
In accordance with UT System regulations, your instructor is a “Responsible Employee” for reporting purposes under Title IX regulations and so must report to the Office of Institutional Equity & Diversity (oie@utrgv.edu) any instance, occurring during a student’s time in college, of sexual misconduct, which includes sexual assault, stalking, dating violence, domestic violence, and sexual harassment, about which she/he becomes aware during this course through writing, discussion, or personal disclosure. More information can be found at www.utrgv.edu/equity, including confidential resources available on campus. The faculty and staff of UTRGV actively strive to provide a learning, working, and living environment that promotes personal integrity, civility, and mutual respect that is free from sexual misconduct, discrimination, and all forms of violence. If students, faculty, or staff would like confidential assistance, or have questions, they can contact OVAVP (Office for Victim Advocacy & Violence Prevention) at 665-8287, 882-8282, or OVAVP@utrgv.edu.

**COURSE DROPS:**
According to UTRGV policy, students may drop any class without penalty earning a grade of DR until the official drop date. Following that date, students must be assigned a letter grade and can no longer drop the class. Students considering dropping the class should be aware of the “3-peat rule” and the “6-drop” rule so they can recognize how dropped classes may affect their academic success. The 6-drop rule refers to Texas law that dictates that undergraduate students may not drop more than six courses during their undergraduate career. Courses dropped at other Texas public higher education institutions will count toward the six-course drop limit. The 3-peat rule refers to additional fees charged to students who take the same class for the third time.

**STUDENT SERVICES:**
Students who demonstrate financial need have a variety of options when it comes to paying for college costs, such as scholarships, grants, loans and work-study. Students should visit the Students Services Center (U Central) for additional information. U Central is located in BMAIN 1.100 (Brownsville) or ESSBL 1.145 (Edinburg) or can be reached by email (ucentral@utrgv.edu) or telephone: (888) 882-4026. In addition to financial aid, U Central can assist students with registration and admissions.

Students seeking academic help in their studies can use university resources in addition to an instructor’s office hours. University Resources include the Advising Center, Career Center, Counseling Center, Learning Center, and Writing Center. The centers provide services such as tutoring, writing help, critical thinking, study skills, degree planning, and student employment. Locations are:

<table>
<thead>
<tr>
<th>Center Name</th>
<th>Brownsville Campus</th>
<th>Edinburg Campus</th>
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<tbody>
<tr>
<td>Advising Center</td>
<td>BMAIN 1.400</td>
<td>ESWKH 101</td>
</tr>
<tr>
<td><a href="mailto:AcademicAdvising@utrgv.edu">AcademicAdvising@utrgv.edu</a></td>
<td>(956) 665-7120</td>
<td>(956) 665-7120</td>
</tr>
<tr>
<td>Career Center</td>
<td>BCRTZ 129</td>
<td>ESSBL 2.101</td>
</tr>
<tr>
<td><a href="mailto:CareerCenter@utrgv.edu">CareerCenter@utrgv.edu</a></td>
<td>(956) 882-5627</td>
<td>(956) 665-2243</td>
</tr>
<tr>
<td>Counseling Center</td>
<td>EUCTR 109</td>
<td>BSTUN 2.10</td>
</tr>
<tr>
<td><a href="mailto:Counseling@utrgv.edu">Counseling@utrgv.edu</a></td>
<td>(956) 665-2574</td>
<td>(956) 882-3897</td>
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<tr>
<td>Learning Center</td>
<td>BMSLC 2.118</td>
<td>ELCTR 100</td>
</tr>
<tr>
<td><a href="mailto:LearningCenter@utrgv.edu">LearningCenter@utrgv.edu</a></td>
<td>(956) 882-8208</td>
<td>(956) 665-2585</td>
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<tr>
<td>Writing Center</td>
<td>BUBLB 3.206</td>
<td>ESTAC 3.119</td>
</tr>
<tr>
<td><a href="mailto:WC@utrgv.edu">WC@utrgv.edu</a></td>
<td>(956) 882-7065</td>
<td>(956) 665-2538</td>
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