CHEM 1111.02 – General Chemistry I Lab

Instructor:  Dr. K. Christopher Smith, SCIE 3.120, telephone: 665-2063, e-mail: kenneth.smith@utrgv.edu

Lab: M, W: 9:00 am - 12:10 pm, SCIE 3.262

Office hours: W: 12:30pm-1:30pm, SCIE 3.120
Office hours can also be scheduled by appointment (send e-mail)


CHEM 1111 Course Description:

“An introduction to basic laboratory techniques using experiments to understand chemical concepts of reactions, stoichiometry and titrations. Prerequisites: Credit/registration in CHEM 1311.”

Learning Outcomes for CHEM 1111

The main goals of the introductory general chemistry laboratory courses are for you to: a) understand and apply method and appropriate technology to the study of natural sciences; b) 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; c) identify and recognize the differences among competing scientific theories; d) demonstrate knowledge of the major issues and problems facing modern science, including issues that touch upon ethics, values, and public policies; e) demonstrate knowledge of the interdependence of science and technology and their influence on, and contribution to, modern culture.

Specific Learning Objectives / Outcomes for the Course

Students will learn and be able to apply elementary concepts of chemistry including the following:
1. Use basic apparatus and apply experimental methodologies used in the chemistry laboratory.
2. Demonstrate safe and proper handling of laboratory equipment and chemicals.
3. Conduct basic laboratory experiments with proper laboratory techniques.
4. Make careful and accurate experimental observations.
5. Relate physical observations and measurements to theoretical principles.
6. Interpret laboratory results and experimental data, and reach logical conclusions.
7. Record experimental work completely and accurately in laboratory notebooks and communicate experimental results clearly in written reports.
8. Design fundamental experiments involving principles of chemistry and chemical instrumentation.
9. Identify appropriate sources of information for conducting laboratory experiments involving principles of chemistry.

**Learning Objectives for Core Curriculum Requirements**

In addition to these general chemistry 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.

**Where can you go for help with CHEM 1111?**

a) **Professor**: I have office hours available, or you can schedule an appointment or e-mail me if you need help.

b) **The UTRGV Learning Center** advertises free tutoring available for a number of subject areas, including chemistry.

c) **Each other**: there are many other students enrolled in CHEM 1111, and it is a great idea to use one another as resources. Help each other, support each other, and challenge each other!

*Calculations (C) & Questions (Q) due when noted → ON SEPARATE PAGE!

<table>
<thead>
<tr>
<th>DATE</th>
<th>ACTIVITY</th>
<th>DUE</th>
<th>COMMENTS</th>
<th>CALC[C]&amp;QUES[Q]</th>
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<tbody>
<tr>
<td>June Mon 3</td>
<td>CHECK-IN, EHS, Syllabus.</td>
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<td>*Review Dry Lab 2B &amp; 2C</td>
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<td>EXP 1 [Basic Lab Operations]</td>
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<td>Q Quiz 1</td>
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<td>June Wed 5</td>
<td>EXP 7 [Empirical Formulas]</td>
<td>QUIZ 7</td>
<td>Skip Parts C &amp; D</td>
<td>C 1-8, 11</td>
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<td>Rep 1</td>
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<td>Q 1.2, 4</td>
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<td>June Mon 10</td>
<td>EXP 28 [Chemistry of Copper]</td>
<td>QUIZ 28</td>
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<td>C ALL</td>
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<td>Rep 7</td>
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<td>Q 1-7</td>
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<td>June Wed 12</td>
<td>EXP 6 [Acids &amp; Bases]</td>
<td>QUIZ 6</td>
<td>Skip Parts A1 &amp; B2,3</td>
<td>Equations:</td>
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<td>MID REVIEW</td>
<td>Rep 28</td>
<td>Skip Part C (pH H2O)</td>
<td>Part E (b-e), Q0</td>
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<td>June Mon 17</td>
<td>MIDTERM EXAM (1 Hr)</td>
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<td>[Exp 1, 7, 8, 28, 6] +</td>
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<td>EXP 27 [Redox]</td>
<td>QUIZ 27</td>
<td>Skip Part A</td>
<td>Handout</td>
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<td>*Review Dry Lab 2A</td>
<td>Rep 6</td>
<td>Do Parts B &amp; C</td>
<td>Q 1.5, 6</td>
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<td>Rep 27</td>
<td>Do A4&amp;A5 + B</td>
<td>B top &amp; 1-8</td>
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<td>Dispense acid in Buret</td>
<td>Q 4.5, 6</td>
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<td>June Mon 24</td>
<td>EXP 13 [Calcium Carbonate]</td>
<td>QUIZ 13</td>
<td>*Use Appendix C</td>
<td>Handout</td>
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<td>Rep 9</td>
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<td>Q 1.3, 4</td>
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<td>June Wed 26</td>
<td>EXP 25 [Calorimetry] (Rods)</td>
<td>QUIZ 25</td>
<td>Skip Part C</td>
<td>C All A &amp; B</td>
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<td>Rep 13</td>
<td>Excel Graph</td>
<td>Trial 1</td>
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Grading

Grades are based on the following scale:
100% - 90% = A; 89% - 80% = B; 79% - 70% = C; 69% - 60% = D; <60% = F

The distribution of the lab grade is as follows:
Midterm exam 25%
Final exam 25%
Best x of x+1 lab reports (including pre/post-labs) 50%

Exams

There will be a midterm exam and a final exam. The exams will be held in the lab. There will be no make-up exams. Any unexcused absence from an exam will result in a score of zero for the exam. The only excusable reasons for missing an exam are as follows: you have a major medical illness requiring immediate treatment, there is a death of an immediate family member, you must participate in a required university activity, or you are observing a religious holy day. Documentation is required for all four 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 or a religious holy day, documentation is required at least one week prior to the activity.

Pre-lab Quizzes

Pre-labs are designed to help you prepare for lab and think about what you will be doing in lab before you come to lab. Pre-lab quizzes will be given at the start of lab, and will be similar to the pre-laboratory assignments available in the laboratory manual. There will be no make-up pre-lab quizzes.

Lab Reports/Lab Report Sheets

Lab report sheets are designed to help you analyze the data and observations you collected during lab. Lab report sheets are due in lab, at the start of the next new lab experiment. Lab reports sheets are due at the start of lab, no more than 10 minutes after the official starting time for the lab. If you arrive more than 10 minutes after the official starting time for the lab you will not be allowed to participate in lab activities. You will be allowed to hand in your report
sheet, but you will be penalized 50% of your score for that report. Lab report sheets will not be accepted more than 24 hours after they are due.

Note that a complete lab grade consists of the above components: a pre-lab quiz, and a lab report/lab report sheet. If you do not attend lab, you will not be allowed to hand in any of the components for that lab, and you will not receive a score for any of the components for that lab.

**Lab Absences**

There will be no make-up labs for unexcused absences. The only excusable reasons for missing a lab are as follows: you have a major medical illness requiring immediate treatment, there is a death of an immediate family member, you must participate in a required university activity, or you are observing a religious holy day. Documentation is required for all four 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 or a religious holy day, documentation is required at least one week prior to the activity. If you arrive to lab more than 10 minutes after the official starting time for the lab you will not be allowed to participate in lab activities, and you will receive a score of zero for that lab. If you have three unexcused lab absences you will automatically receive a failing grade for the course.

**Safety in the Chemistry Laboratory**

Two copies of the departmental safety policy are included at the end of this syllabus, one to be retained by you and the other to be signed and turned in before you leave today. Students are expected to adhere to the policies described.

Please note that appropriate eyewear/goggles and a lab coat or the equivalent are absolutely required to work in any lab, and students not having these supplies will not be allowed to participate in lab activities.

Clean up after laboratory sessions is essential, and part of good lab safety. At the end of labs, please observe all work areas, including sinks, balances, counters, and floors, to make sure they are in good condition for the next section. Failure to do so will result in penalties.

**Important Dates to Remember**

The UTRGV academic calendar can be found at utrgv.edu. Important dates for Summer I 2019 include:

Jun. 3 (Mon.) Summer I classes begin
Jun. 6 (Thurs.) Census Day (last day to drop without it appearing on the transcript)
Jun. 27 (Thurs.) Last day to drop (DR grade) a class or withdraw (grade of W)
July 4 (Thurs.) Independence Day. No classes.
July 8 (Mon.) Study Day. No classes.
July 9 (Tues.) Final Exams; Official last day of the Summer I term

There are several other important dates on the webpage; you are encouraged to take a look.
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 suffer 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 Cortez Hall Room 129 and can be contacted by phone at (956) 882-7374 (Voice) or via email at ability@utrgv.edu.
Edinburg Campus: Student Accessibility Services is located in 108 University Center and can be contacted by phone at (956) 665-7005 (Voice), (956) 665-3840 (Fax), 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:

Summer I July 1 - 8

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 Integrity

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 the Dean of Students.

Sexual Harassment, Discrimination, and Violence

In accordance with UT System regulations, your instructor is a “Responsible Employee” for reporting purposes under Title IX regulations and so must report any instance, occurring during a student’s time in college, of sexual assault, stalking, dating violence, domestic violence, or 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 and discrimination. 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 Learning Center, Writing Center, Advising Center and Career Center. The centers provide services such as tutoring, writing help, critical thinking, study skills, degree planning, and student employment. Locations are:

- Learning center: BSTUN 2.10 (Brownsville) or ELCTR 100 (Edinburg)
- Writing center: BLIBR 3.206 (Brownsville) or ESTAC 3.119 (Edinburg)
- Advising center: BMAIN 1.400 (Brownsville) or ESWKH 101 (Edinburg)
- Career center: BCRTZ 129 (Brownsville) or ESSBL 2.101 (Edinburg)
1. Students are required to be covered from wrist to ankles. This means:
   ➢ A lab coat that extends from the wrist to 10 inches below the bench top.
   ➢ Long pants without tears or holes that cover the tongue of the shoe.
   (No Leggings, Jeggings, Yoga pants, Capris, or Shorts)

2. Everyone is required to wear goggles or protective eyewear at all times when experiments are being conducted in the lab. Prescription lenses without side shields are not considered safety glasses. Safety glasses must have side shields.

3. Everyone is required to wear closed-foot shoes that cover the entire foot at all times in the lab. Must be footwear that does not readily absorb chemicals during a chemical spill. (No Sandals or Ballerina slippers).

4. Do not wear flammable garments, anything with synthetic fibers, or loosely woven natural fibers.

5. Food, drinks, and chewing gum are NOT allowed in Lab.

6. Students are required to tie back loose or long hair.

7. Students are Not allowed to Text while conducting experiments.

8. Students violating any item(s) 1 through 7 will be noted by lab instructor. If the student’s name appears 3 times on the list, the student will be dropped from the lab. The student will check out at this time.

9. Students are required to observe cleanliness of the work area at all times. This includes their personal workspace, sinks, and the area in the back of the lab.

10. At the beginning of the semester, students will sign a document that declares understanding of the safety policies and consequences of policy violations. A signature is considered an agreement to abide by the policies and accept the consequences of violation of said policies.

I have read the “Laboratory Safety Policy” above for the UTRGV Department of Chemistry. I agree to follow this policy. Failure to do so may result in removal from the course.
UTRGV DEPARTMENT OF CHEMISTRY: LABORATORY SAFETY POLICY

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Printed Name: ________________________________________
Signed Name: ________________________________________ Date: _________

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Signed Name: ________________________________________ Date: _________