


CHEM 1112 General Chemistry II Laboratory		
	Professor	Sections
	Sandhya Gavva, Ph.D	102, 103, 104
	Amandeep Sra, Ph.D	101
	Yanping Qin, Ph.D	105, 106
Term	Fall 2015	
Meetings	Workshop: SLC 3.102	Lab: SLC 3.202

Professor's Contact Information

	Phone	Office	Email Address	Office Hours
Dr. Gavva	972-883-2279	SLC 3.501	sgavva@utdallas.edu	M 3:30-4:30pm R 1 – 2 pm
Dr. Sra	972-883-4818	SLC 3.513	amandeep.sra@utdallas.edu	MTF 10-12 pm
Dr. Qin	972-883-6299	SLC 3.403	yxq083000@utdallas.edu	M 9-10am

General Course Information

Pre-requisites, Co-requisites, & other restrictions	Passing Grades in both CHEM 1311 and CHEM 1111 (General Chemistry I Lecture and Lab) or equivalents. No Audits allowed.
Course Description	This course is a continuation of CHEM 1111, it incorporates experiments in kinetics, acid base chemistry, chemical equilibrium, electrochemistry and colligative properties.
Expected Learning Outcomes	<p><i>Students should be able to:</i></p> <ol style="list-style-type: none"> 1. Use graphing techniques and data analysis to evaluate data, 2. Determine the rate law of a chemical reaction, 3. Use spectrophotometer to determine equilibrium constant of a chemical system, 4. Explain the effect of various parameters on equilibrium of a chemical system, and 5. Generate and interpret pH titration curves.
Required Texts & Materials	<p>Laboratory Manual: An Atoms First Approach to the General Chemistry Laboratory 2nd edition ISBN : 9780077646424 (Two-semester)</p> <ul style="list-style-type: none"> • Z-87 rated Safety Glasses or Goggles • Only three types of calculators are allowed during labs and workshops. TI – 30Xa, TI-30 XIIS and TI-30 XIIB • Access to eLearning is needed to complete your Pre-lab quizzes
Supplemental Texts, Readings, & Materials	<ul style="list-style-type: none"> • Students are financially responsible for items checked out such as glassware and instruments • Other course materials may be recommended or required • Tutors: See the Chem. Dept. AA (BE 2.312) for an updated list of tutors • Interactive DVD-ROMs covering general chemistry are available via the CSA
Class Attendance	<p><i>It is typical for the enrollments of all CHEM 1112 sections to be at a maximum (set by the Fire Marshall's regulations for the SLC laboratories). If you are enrolled in one Section, you cannot attend another Section.</i></p> <p><i>It is typical for the laboratory activities to utilize the entire 180 minutes of class time such that one cannot simultaneously enroll in other classes whose meeting days and times conflict with those of CHEM 1112.</i></p> <p>No cell phones or computers are allowed in the chemistry laboratories. If you need to make an emergency phone call, first notify your TA or lab instructor and then please step outside the lab.</p>

<p>Make-Up Labs</p>	<p>There are no make-up lab dates for any experiments! There are no scheduled make-up periods in the Gen Chem Labs. Make-ups are done during other lab sections on a <u>space-available basis</u>. If you miss your regularly scheduled laboratory session, and have a valid university excuse, you must make arrangements through <u>your Instructor</u> to make-up the lab later in the <u>same week</u> (Tuesday to Monday). This will be your <u>only chance</u> to make-up that particular experiment. Make-ups for any lab are not possible outside this given time frame.</p> <p>To make-up a laboratory with <u>another instructor</u>, you must fill the make-up lab form and turn in to the lab coordinator (Dr. Sra in SLC 3.513). The make-up lab form is posted on elearning. You will receive an email from the lab coordinator confirming your assignment to another lab section.</p> <p>Forms should be turned in as soon as possible. For students participating in UTD sports activities (the complete schedule must be attached and signed by responsible coach or team leader) and religious holidays the form should be submitted <u>at least 2 weeks prior to the event</u>. In case of medical absence attach a doctor's note.</p>
<p>Penalty Points</p>	<p>Points may be deducted from your final grade for each experiment for any of the following reasons:</p> <ul style="list-style-type: none"> • Lack of participation in the workshop and/or the laboratory (absent* or inattentive) 5 – 50 points • Late lab report 10 points per day late • Safety violations (see posted notes for details) 10 – 100 points • Illegible handwriting or computer generated work (unless otherwise arranged) 5 – 10 points • Calculations that are not complete or cannot be followed 5 – 15 points • Misuse of laboratory time (e.g. using cell phone) 5 – 10 points • Failure to clean up equipment, glassware, working area, community equipment (e.g. balance) 5 – 10 points • After a 10 minute grace period, students will not be allowed to attend the workshop and the lab. At the discretion of the instructor, under extenuating circumstances, the student may be allowed to participate in the lab but all points for the workshop will be deducted. • Any student who does not complete the pre-lab quiz <u>will not</u> be permitted to perform that day's experiment. Therefore, students should read and understand the lab BEFORE they attempt the pre-lab quiz.
<p>Workshops</p>	<p>During the workshop, students will work in groups, guided by the lab instructor and TA, to understand the concepts and techniques involved in each experiment. The goal here is to make the lab experience more enjoyable by assisting students to reach a basic, overall understanding of the experiment and the science. Students should read the lab prior to the lab period in order to be prepared for the workshop and the experiment. The workshop handouts will be collected at the end of the workshop period. Workshops count for 10% of the course grade.</p>

Teaching Assistants and Lab Sections

Day/Time	Section	Instructor	Teaching Assistant	E-mail
T 07:00 AM	101	Dr. Sra	Ning Xuhui (Louis)	xxn101020@utdallas.edu
T 10:00 AM	102	Dr. Gavva	Ning Xuhui (Louis)	xxn101020@utdallas.edu
T 1:00 PM	103	Dr. Gavva	Perananthan, Sahila	pxs123430@utdallas.edu
T 4:00 PM	104	Dr. Gavva	Perananthan, Sahila	pxs123430@utdallas.edu
F 10:00 AM	105	Dr. Qin	Hashami Zohreh	zxh088000@utdallas.edu
F 1:00 PM	106	Dr. Qin	Hashami Zohreh	zxh088000@utdallas.edu

The easiest way to contact an instructor and/or TA is via e-mail.

Instructors and TAs check their e-mail frequently and try to respond as fast as possible.

Please always include both – your TA and your instructor – in your e-mail.

Assignments & Academic Calendar - Chem 1112

There will be twelve lab experiments during the semester. There will be no makeup labs and you are not allowed to perform your experiments in another Lab section. The last lab is the final exam. You cannot drop the final exam grade. Your final grade for the lab will be determined after dropping the lowest lab score and adding the final exam score.

This schedule and timeline are subject to change at the discretion of the lab coordinator.

Week	Exp. #	Experiment	PreLab No.	Report Due (Week of)
8/31 – 9/4/2015	01	Syllabus, Check-in, Lab Safety Beer-Lambert Law (Handout)	None	09/8
9/8 – 9/14/2015	15	On the Nature of Solutions (Part I and III only)	15	09/15
9/15 – 9/21/2015	16	Molar Mass Determination Through Freezing Point Depression	16	09/22
9/22 – 9/28/2015	18	Determination of the Equilibrium Constant of Phenolphthalein Dissociation	18	09/29
9/29– 10/5/2015	22	Thermodynamics of Formation of a Borax Solution	22	10/06
10/6 – 10/12/2015	19	Le Châtelier's Principle: On the Effect of Concentration & Temperature on Equilibrium	19	10/13
10/13 – 10/19/2015	02	Buffer Lab (Handout)	02	10/20
10/20 – 10/26/2015	20	Titration II: pH Titration Curves	20	10/27
10/27 – 11/02/2015	21	Determining the Molar Solubility Product of Copper(II) Tartrate	21	11/03
11/3 – 11/9/2015	23	Galvanic Cells and the Measurement of Cell Potential	23	11/10
11/10 – 11/16/2015	24	Color Changes in Ionizing Foot Baths? (Testing Marketing Claims: A Case Study)	Procedure in lab manual	11/17
11/17 – 12/30/2015	17	Kinetics—The Hydrolysis of <i>p</i> -Nitrophenyl Acetate	17	12/1
11/23 – 11/27/2015		Fall Break		
12/1 – 12/7/2015		Lab Final Exam & Checkout		

Everyone must checkout following the Lab Practical Exam.

Failure to checkout will result in withholding of your final course grade.

Course Policies

Safety	<p>IMPORTANT: In accordance with University and Chemistry Department safety rules, any time anyone (student, TA, instructor, or visitor) is in a lab, Z87-rated safety eyewear must be worn. The <u>first violation</u> in the semester will result in a warning and removal from the lab until the safety eyewear is in-place. The <u>second violation</u> in the semester will result in dismissal from that lab period with no extra time being allowed for make-up of the work scheduled for that lab period. Similar penalties will apply if any other safety rules are violated. Please see “penalty points for details. In summary, all students are responsible for all information inside the undergraduate safety manual; it is located at:</p> <p style="text-align: center;">www.utdallas.edu/nsm/chemistry/resources/safety.html</p> <p>In addition arms, legs and feet should be covered in lab. Short pants and skirts (which expose calves or thighs) are not allowed. Sleeveless shirts (including spaghetti strap shirts), or shirts that expose your midriff are also not allowed—however, a lab coat may be worn over these shirts during lab. Closed-toed shoes that fully cover your foot are also required. Hair longer than shoulder length must be put up in an appropriate manner to keep it out of harms way.</p>
Lab Etiquette	<p>Each student will be evaluated with respect to their adherence to good safety practices, advanced knowledge of the day’s experiment and the equipment involved, laboratory technical skills, and laboratory etiquette/professionalism.</p> <ul style="list-style-type: none"> Students who miss more than three experiments FOR ANY REASON are advised to withdraw from the course. All members of the group must be present during the <u>entire</u> experiment. Any member that leaves early or takes long breaks during the experiment will receive a grade of zero for that experiment. No experiments can be made up No section switching is allowed
Pre-lab	<p>Each week students are expected to prepare for the lab by doing:</p> <p>A. Reading and understanding the experiment</p> <p>B. Answering about 5-6 questions on eLearning for that particular lab. You will be given 30 minutes to answer the questions. It is absolutely imperative that you have read and UNDERSTOOD the lab prior to beginning the pre-lab quiz.</p> <p>The pre-lab quiz questions will be displayed one at a time, and you will not be permitted to go back, once you have submitted an answer.</p> <p>Students are expected to take the pre-lab quiz on their own, without help from anyone or the internet. However, students are permitted to use their lab manuals or textbook during the pre-lab quiz.</p> <p><i>Pre-labs will be due at midnight the evening before you perform the experiment. Students who do not complete the pre-lab quiz and/or receive a score of zero will not be permitted in the workshop and the lab for that day. No make-up lab will be allowed.</i></p>
Lab Write-Ups	<p>There are no formal lab reports required for this course. However, you will turn in the data sheets with all the required information for each experiment. Where appropriate, it is essential that you include calculations, detailed observations, balanced equations, percentage error, a brief conclusion of the experiment, etc. Write-ups are due at the <u>beginning</u> of the next lab period. For example, if an experiment is performed between 10:00 – 12:45 PM on Tuesday, September 01, 2015, the write-up for that exp. will be due at 10:00 AM next Tuesday, September, 08, 2015. LATE write-ups will be accepted but 10% of the maximum points allowed will be subtracted from a late write up EACH DAY it is late.</p>
Data	<p>Any data you collect during the experiment <u>must be written in pen.</u> In case of wrong entries, make a new table and explain what happened. Do not erase any original data. Use scientific notations to improve accuracy. 0.000789 does not equal to 0.0008, it’s 7.89×10^{-4}. Calculating this way might improve % error. Keep all the data and calculations neat. If we can’t read them, obviously we cannot grade them. Before you leave the lab, a TA or instructor must review and sign your data sheet.</p>

Clean-Up	Leave sufficient time at the end of laboratory period for cleaning up. Make sure you thoroughly clean all the equipment, glassware and also clean-up your bench. If you do not comply with cleanup and other general rules pertaining to the lab, your grade for that lab will be lowered. Please see “penalty points” for detail.																																											
Chemistry Stockroom SLC 3.221	Broken items will need to be replaced by visiting the Chemistry stockroom (SLC3.221) and filling out a breakage form with the appropriate information. Broken charges are summed and entered into your account at the end of the semester. You are also required to go to the Bursars office and pay for any items in your lab drawer that become broken or lost during the SEMESTER. THIS WILL BE STRICTLY ENFORCED. Failure to reconcile your account with the Bursar office will result in withholding of your Chem 1112 grade.																																											
Lab Drawers	Failure to check-out of your laboratory drawer before Finals Week will result in withholding of your CHEM 1112 Grade.																																											
Final Exam	<p>The lab final exam is a practical one and will be performed in the assigned lab room. There will be no workshop and students will report directly to their assigned lab rooms.</p> <ul style="list-style-type: none">• The final lab practical is based on one important experiment / experimental technique that you have studied in General Chemistry.• The practical will be 2 hours long.• Students will be graded on everything, including punctuality and time management, safety, proper disposal, overall lab technique, handling glassware and equipment.• Students in a group will be graded individually regarding their behavior and lab technique.• Students are NOT allowed to talk to each other – only to their partner in the group.• Students are NOT allowed to talk to their TA and/or instructor.• Any act of scholastic dishonesty is subject to discipline.• The lab final cannot be dropped.• The lab final will count 20% of your overall course grade.																																											
Special Assignments	None																																											
Extra Credit	None																																											
Grading (credit) Criteria	<p>Summary of Points:</p> <table><tr><td colspan="2"><u>Each experiment:</u></td><td><u>Pts.</u></td></tr><tr><td colspan="2">Pre-lab quiz</td><td>20</td></tr><tr><td colspan="2">Workshop</td><td>10</td></tr><tr><td colspan="2">Lab Write Ups</td><td><u>70</u></td></tr><tr><td colspan="2">Total</td><td>100</td></tr></table> <p>There are a total of 12 experiments. One lowest lab grade will be dropped at the end of the semester. The average of your 11 highest lab grades will count 80% of your overall course grade.</p> <p>Your final letter grade for the course will be determined using a scale such as the one below where the class average is set at the “B-/C+” border (e.g., 79.5 points):</p> <table><tr><td>A+</td><td>98 & above</td><td>C</td><td>73-76</td></tr><tr><td>A</td><td>93-97</td><td>C-</td><td>70-72</td></tr><tr><td>A-</td><td>90-92</td><td>D+</td><td>67-69</td></tr><tr><td>B+</td><td>87-89</td><td>D</td><td>63-66</td></tr><tr><td>B</td><td>83-86</td><td>D-</td><td>60-62</td></tr><tr><td>B-</td><td>80-82</td><td>F</td><td>59 & below</td></tr><tr><td>C+</td><td>77-79</td><td></td><td></td></tr></table> <p><i>Note: Each Section is a unique course; sections are not graded together, but we have uniform grading scales.</i></p> <p><i>If you suspect that an assignment has been graded incorrectly, you have <u>one week</u>, after the assignment is returned to you, to contact the TA/instructor to have the grade changed.</i></p>	<u>Each experiment:</u>		<u>Pts.</u>	Pre-lab quiz		20	Workshop		10	Lab Write Ups		<u>70</u>	Total		100	A+	98 & above	C	73-76	A	93-97	C-	70-72	A-	90-92	D+	67-69	B+	87-89	D	63-66	B	83-86	D-	60-62	B-	80-82	F	59 & below	C+	77-79		
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Field Trip Policies Off-Campus Instruction & Course Activities	<p><i>Off-campus, out-of-state, and foreign instruction and activities are subject to state law and University policies and procedures regarding travel and risk-related activities. Information regarding these rules and regulations may be found at the website address http://www.utdallas.edu/BusinessAffairs/Travel_Risk_Activities.htm. Additional information is available from the office of the school dean. Below is a description of any travel and/or risk-related activity associated with this course.</i></p> <p style="text-align: center;">None</p>
Student Conduct and Discipline	<p>The University of Texas System and The University of Texas at Dallas have rules and regulations for the orderly and efficient conduct of their business. It is the responsibility of each student and each student organization to be knowledgeable about the rules and regulations which govern student conduct and activities. General information on student conduct and discipline is contained in the UTD printed publication, <i>A to Z Guide</i>, which is provided to all registered students each academic year.</p> <p>The University of Texas at Dallas administers student discipline within the procedures of recognized and established due process. Procedures are defined and described in the <i>Rules and Regulations, Series 50000, Board of Regents, The University of Texas System</i>, and in Title V, Rules on Student Services and Activities of the university's <i>Handbook of Operating Procedures</i>. Copies of these rules and regulations are available to students in the Office of the Dean of Students, where staff members are available to assist students in interpreting the rules and regulations (SU 1.602, 972/883-6391) and online at</p> <p style="text-align: center;">http://www.utdallas.edu/judicialaffairs/UTDJudicialAffairs-HOPV.html</p> <p>A student at the university neither loses the rights nor escapes the responsibilities of citizenship. He or she is expected to obey federal, state, and local laws as well as the Regents' Rules, university regulations, and administrative rules. Students are subject to discipline for violating the standards of conduct whether such conduct takes place on or off campus, or whether civil or criminal penalties are also imposed for such conduct.</p>
Academic Integrity	<p>The faculty expects from its students a high level of responsibility and academic honesty. Because the value of an academic degree depends upon the absolute integrity of the work done by the student for that degree, it is imperative that a student demonstrate a high standard of individual honor in his or her scholastic work.</p> <p>Any student who commits an act of scholastic dishonesty is subject to discipline. Scholastic dishonesty includes but is not limited to cheating, plagiarism, collusion, the 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.</p> <p>Plagiarism, especially from the web, from portions of papers for other classes, and from any other source is unacceptable and will be dealt with under the university's policy on plagiarism (see general catalog for details). This course will use the resources of turnitin.com, which searches the web for possible plagiarism and is over 90% effective.</p>
Copyright Notice	<p>The copyright law of the United States (Title 17, United States Code) governs the making of photocopies or other reproductions of copyrighted materials, including music and software. Copying, displaying, reproducing, or distributing copyrighted works may infringe the copyright owner's rights and such infringement is subject to appropriate disciplinary action as well as criminal penalties provided by federal law. Usage of such material is only appropriate when that usage constitutes "fair use" under the Copyright Act. As a UT Dallas student, you are required to follow the institution's copyright policy (Policy Memorandum 84-I.3-46). For more information about the fair use exemption, see</p>

	http://www.utsystem.edu/ogc/intellectualproperty/copypol2.htm
Email Use	The University of Texas at Dallas recognizes the value and efficiency of communication between faculty/staff and students through electronic mail. At the same time, email raises some issues concerning security and the identity of each individual in an email exchange. The university encourages all official student email correspondence be sent only to a student's U.T. Dallas email address and that faculty and staff consider email from students official only if it originates from a UTD student account. This allows the university to maintain a high degree of confidence in the identity of all individual corresponding and the security of the transmitted information. UTD furnishes each student with a free email account that is to be used in all communication with university personnel. The Department of Information Resources at U.T. Dallas provides a method for students to have their U.T. Dallas mail forwarded to other accounts.
Withdrawal from Class	The administration of this institution has set deadlines for withdrawal of any college-level courses. These dates and times are published in that semester's course catalog. Administration procedures must be followed. It is the student's responsibility to handle withdrawal requirements from any class. In other words, the instructor(s) cannot drop or withdraw any student. The student must do the proper paperwork to ensure that he/she will not receive a final grade of "F" in a course if he/she chooses not to attend the class once he/she is enrolled. Undergraduates last day to withdraw with WL = Thursday, October 29, 2015.
Student Grievance Procedures	Procedures for student grievances are found in Title V, Rules on Student Services and Activities, of the university's <i>Handbook of Operating Procedures</i> . In attempting to resolve any student grievance regarding grades, evaluations, or other fulfillments of academic responsibility, it is the obligation of the student first to make a serious effort to resolve the matter with the instructor, supervisor, administrator, or committee with whom the grievance originates (hereafter called "the respondent"). Individual faculty members retain primary responsibility for assigning grades and evaluations. If the matter cannot be resolved at that level, the grievance must be submitted in writing to the respondent with a copy of the respondent's School Dean. If the matter is not resolved by the written response provided by the respondent, the student may submit a written appeal to the School Dean. If the grievance is not resolved by the School Dean's decision, the student may make a written appeal to the Dean of Graduate or Undergraduate Education, and the dean will appoint and convene an Academic Appeals Panel. The decision of the Academic Appeals Panel is final. The results of the academic appeals process will be distributed to all involved parties. Copies of these rules and regulations are available to students in the Office of the Dean of Students, where staff members are available to assist students in interpreting the rules and regulations.
Incomplete Grades	As per university policy, incomplete grades will be granted only for work unavoidably missed at the semester's end and only if 70% of the course work has been completed. An incomplete grade must be resolved within eight (8) weeks from the first day of the subsequent long semester. If the required work to complete the course and to remove the incomplete grade is not submitted by the specified deadline, the incomplete grade is changed automatically to a grade of F .
Student AccessAbility	It is the policy and practice of The University of Texas at Dallas to make reasonable accommodations for students with properly documented disabilities. However, written notification from the Office of Student AccessAbility (OSA) is required. If you are eligible to receive an accommodation and would like to request it for a course, please discuss it with an OSA staff member and allow at least one week's advanced notice. Students who have questions about receiving accommodations, or those who have, or think they may have, a disability (mobility, sensory, health, psychological, learning, etc.) are invited to contact the Office of Student AccessAbility for a confidential discussion. The primary functions of the Office of Student AccessAbility are to provide:

	<ol style="list-style-type: none"> 1. academic accommodations for students with a documented permanent physical, mental or sensory disability 2. non-academic accommodations 3. resource and referral information and advocacy support as necessary and appropriate. <p>OSA is located in the Student Services Building, suite 3.200. They can be reached by phone at (972) 883-2098, or by email at studentaccess@utdallas.edu</p>
Religious Holy Days	<p>The University of Texas at Dallas will excuse a student from class or other required activities for the travel to and observance of a religious holy day for a religion whose places of worship are exempt from property tax under Section 11.20, Tax Code, Texas Code Annotated.</p> <p>The student is encouraged to notify the instructor or activity sponsor as soon as possible regarding the absence, in advance of the assignment. The student, so excused, will be allowed to take the exam or complete the assignment within a reasonable time before/after the absence: a period equal to the length of the absence, up to a maximum of one week. A student who notifies the instructor and completes any missed exam or assignment may not be penalized for the absence. A student who fails to complete the exam or assignment within the prescribed period may receive a failing grade for that exam or assignment.</p> <p>If a student or an instructor disagrees about the nature of the absence [i.e., for the purpose of observing a religious holy day] or if there is similar disagreement about whether the student has been given a reasonable time to complete any missed assignments or examinations, either the student or the instructor may request a ruling from the chief executive officer of the institution, or his or her designee. The chief executive officer or designee must take into account the legislative intent of TEC 51.911(b), and the student and instructor will abide by the decision of the chief executive officer or designee.</p>

These descriptions and timelines are subject to change at the discretion of the Professor.