CHEM 1112 General Chemistry II Laboratory		
Professor		**Sections**
UTD	Sandhya Gavva, Ph.D	104, 107, 109, 112, 126,
	Warren Goux, Ph.D	110, 128
	Yu Huang, Ph.D	102, 105, 115, 118, 121, 122, 127, 129
	Shailesh Shah, Ph.D	120
	Amandeep Sra, Ph.D	111, 124
	Yanping Qin, Ph.D	101, 114, 117,
	Erin Walker, Ph.D	103, 106, 108, 113, 116, 119, 123, 125
	Sumudu Wijenayake, Ph.D	131
Term	**Spring 2017**	
Meetings	Workshops: SLC 2.202, 2.203, 3.102 Labs: SLC 3.202, 3.210, 3.220	

Professor's Contact Information

	Phone	**Office**	**Email Address**	**Office Hours**
Dr. Gavva	972-883-2279	SLC 3.501	sgavva@utdallas.edu	T 10 - 12 pm
Dr. Goux	972-883-2660	BE 3.510	wgoux@utdallas.edu	T 12 - 1 pm
Dr. Huang	972-883-4817	BE 3.330B	yxh091220@utdallas.edu	M 3:30 -5:30 pm
Dr. Shah	972-883-4817	BE 3.330B	sns170230@utdallas.edu	F 12 -1 pm
Dr. Sra	972-883-4818	SLC 3.513	amandeep.sra@utdallas.edu	M/W/F 1 - 2 pm
Dr. Qin	972-883-6299	SLC 3.403	yxq083000@utdallas.edu	T 1 - 2 pm
Dr. Walker	972-883-4817	BE 3.330B	erink.walker@utdallas.edu	M 8:30 - 9:30 am R 11.45 - 12:45 pm
Dr. Wijenayake	972-883-4817	BE 3.330C	snw081000@utdallas.edu	R 10 - 11 am

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	*Students should be able to:* 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, 5. Generate and interpret pH titration curves
Required Texts & Materials	**Laboratory Manual:** An Atoms First Approach to the General Chemistry Laboratory 2nd edition ISBN : 9780077646424 (Two-semester) • 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 safety and Pre-lab quizzes

Supplemental Texts, Readings, & Materials	• 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. office (BE 2.502) for an updated list of tutors (contact your instructor for further guidance) • Interactive DVD-ROMs covering general chemistry are available via the CSA
Class Attendance	*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.* *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.* **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.**
Make-Up Labs	**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 **space-available basis**. If you miss your regularly scheduled laboratory session, and have a valid university excuse, you must make arrangements through **your Instructor** to make-up the lab later in the **same week** (Tuesday to Monday). This will be your **only chance** to make-up that particular experiment. Make-ups for any lab are not possible outside this given time frame. **To make-up a laboratory with another instructor, 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. 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 **at least 2 weeks prior to the event**. In case of medical absence attach a doctor's note.

Teaching Assistants and Lab Sections

Day/Time	Section	Instructor	Teaching Assistant	E-mail
M 10:00AM	**101**	**Dr. Qin**	Paliaththa Kumarage, Dileepa	pxd150930@utdallas.edu
	102	**Dr. Huang**	Cue, John	joc160230@utdallas.edu
	103	**Dr. Walker**	Ranathunga, Dineli	dxr161130@utdallas.edu
M 1:00 PM	**104**	**Dr. Gavva**	Paliaththa Kumarage, Dileepa	pxd150930@utdallas.edu
	105	**Dr. Huang**	Kallu Jyothi	jxk162030@utdallas.edu
	106	**Dr. Walker**	Berry, Danielle	drb160230@utdallas.edu
M 4:00 PM	**107**	**Dr. Gavva**	Kallu Jyothi	jxk162030@utdallas.edu
	108	**Dr. Walker**	Berry, Danielle	drb160230@utdallas.edu
T 1:00 PM	**109**	**Dr. Gavva**	Ranathunga, Dineli	dxr161130@utdallas.edu
	110	**Dr. Goux**	Gorby, Amanda	ajg150830@utdallas.edu
T 4:00 PM	**111**	**Dr. Sra**	Gorby, Amanda	ajg150830@utdallas.edu
W 7:00 AM	**112**	**Dr. Gavva**	Dickens, Angela	add130130@utdallas.edu
	131	**Dr. Wijenayake**	Abeyrathna, Sameera	ssa161030@utdallas.edu
	113	**Dr. Walker**	Mowery-Batnij, Sharif (Alex)	sam160830@utdallas.edu
W 10:00 AM	**114**	**Dr. Qin**	Dickens, Angela	add130130@utdallas.edu
	115	**Dr. Huang**	Youn, Jonghae	jxy140930@utdallas.edu
	116	**Dr. Walker**	Abeyrathna, Sameera	ssa161030@utdallas.edu
W 1:00 PM	**117**	**Dr. Qin**	Nguyen, Do Duc	dxn111130@utdallas.edu
	118	**Dr. Huang**	Youn, Jonghae	jxy140930@utdallas.edu
	119	**Dr. Walker**	Coffer, Meagan	mac151630@utdallas.edu
W 4:00 PM	**120**	**Dr. Shah**	Coffer, Meagan	mac151630@utdallas.edu
	121	**Dr. Huang**	Nguyen, Do Duc	dxn111130@utdallas.edu
R 1:00 PM	**122**	**Dr. Huang**	Martin, Thomas	tjm150230@utdallas.edu
	123	**Dr. Walker**	Long, Chao	cxl135330@utdallas.edu
R 4:00 PM	**124**	**Dr. Sra**	Martin, Thomas	tjm150230@utdallas.edu
	125	**Dr. Walker**	Long, Chao	cxl135330@utdallas.edu
F 7:00 AM	**126**	**Dr. Gavva**	Mowery-Batnij, Sharif (Alex)	sam160830@utdallas.edu
	127	**Dr. Huang**	Cue, John	joc160230@utdallas.edu
F 1:00 PM	**128**	**Dr. Goux**	Hashami, Zohreh	zxh088000@utdallas.edu
	129	**Dr. Huang**	Malekpour, Soheil	sxm165830@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. Emails should include your section number, and day & time your lab meets.

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 of:	Exp. #	Experiment	Pre-Lab No.	Report Due Week of
1/17 – 1/23/2017	01	Syllabus, Check-in, Lab Safety Beer-Lambert Law (Handout)	None	Lab safety quiz on eLearning 1/24
1/24 – 1/30/2017	15	On the Nature of Solutions (Part I and III only)	15	1/31
1/31 – 2/06/2017	16	Molar Mass Determination Through Freezing Point Depression	16	2/7
2/7 – 2/13/2017	17	Kinetics—The Hydrolysis of *p*-Nitrophenyl Acetate	17	2/14
2/14 – 2/20/2017	18	Determination of the Equilibrium Constant of Phenolphthalein Dissociation	18	2/21
2/21 – 2/27/2017	19	Le Châtelier's Principle: On the Effect of Concentration & Temperature on Equilibrium	19	2/28
2/28 – 3/06/2017	02	Buffer Lab (Handout)	02	3/7
3/7 – 3/20/2017	20	Titration II: pH Titration Curves	20	3/21
3/13 – 3/18/2017		**Spring Break**		
3/21 – 3/27/2017	21	Determining the Molar Solubility Product of Copper (II) Tartrate	21	3/28
3/28 – 4/3/2017	22	Thermodynamics of Formation of a Borax Solution	22	4/4
4/4 – 4/10/2017	23	Galvanic Cells and the Measurement of Cell Potential	23	4/11
4/11 – 4/17/2017	24	Color Changes in Ionizing Foot Baths? (Testing Marketing Claims: A Case Study)	Procedure in lab manual	4/11
4/18 – 4/24/2017		**Lab Final Exam** & Checkout		

March 13th (Monday) is spring break and student needs to do Lab #20 on March 21st (Monday). Everyone must checkout during the week of April 18th, 2017. Failure to checkout will result in withholding of your final course grade.

Course Policies

Safety	**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 first violation in the semester will result in a warning and removal from the lab until the safety eyewear is in-place. The second violation 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: www.utdallas.edu/nsm/chemistry/resources/safety.html 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 harm's way. Lab coats are provided to all students and must be worn at all times.
Safety Quiz	Login to the eLearning lab course. Read the syllabus and the three safety documents in the safety folder. A safety quiz will pop-up ONLY after you have reviewed the safety documents. Begin the safety quiz. You have multiple attempts to obtain a 100% on the safety quiz. The pre lab quizzes will NOT open up until you complete and obtain 100% on the safety quiz.
Lab Etiquette	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. • 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 entire 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	**Each week students are expected to prepare for the lab by:** A. Reading and understanding the experiment 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. 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. 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. ***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.***
Workshops	Students will work in groups during the first 45 min of the lab period. Workshops are *open discussions* designed to help you 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. It is advised to read and gain an initial understanding the lab prior to the lab period in order to be better prepared for both the Workshops

	and the Experiments. Student work in the workshop will be collected at the end of the workshop period. Workshops count for10% of the course grade.
Lab Write-Ups	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 beginning of the next lab period. For example, if an experiment is performed between 10:00–12:45 PM on Tuesday, January 24, 2017, the write-up for that exp. will be due at 10:00 AM next Tuesday, January 31, 2017. Lab reports submitted later on the same day will receive a 5 point deduction. Any further LATE lab reports will be accepted but will receive a 10 point deduction **EACH DAY** it is late. Any student found working on the lab report during workshop will automatically receive a 20 point deduction – 10 points for lab report being turned in late and 10 points for lack of participation in the workshop.
Data	Any data you collect during the experiment **must be written in pen**. In case of wrong entries, mark through the incorrect entry with a single line, then write the correct entry next to it. If an entire table is wrong, cross out the old table and 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.
Clean-Up	Leave sufficient time at the end of the laboratory period for cleaning up. Make sure you thoroughly clean all the equipment, glassware, and your lab 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.**
Grading (credit) Criteria	**Summary of Points:** Each experiment: — Pts. Pre-lab quiz — 20 Workshop — 10 Lab Write Ups — 70 Total 100 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**. Final Exam will count for **20% of your overall course grade**. 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): A+ 97 & above; A 93-96; A- 90-92; B+ 87-89; B 83-86; B- 80-82; C+ 77-79; C 73-76; C- 70-72; D+ 67-69; D 63-66; D- 60-62; F 59 & below *Note: Each Section is a unique course; sections are not graded together, but we have uniform grading scales.* *If you suspect that an assignment has been graded incorrectly, you have **one week**, after the assignment is returned to you, to contact the TA/instructor to have the grade changed.*

Penalty Points	Points may be deducted from your final grade for each experiment for any of the following reasons: • Lack of participation in the workshop and/or the laboratory (absent* or inattentive) **5 – 50 points** • Late lab report **10 points per day late** • Same day late lab report submission **5 points** • 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 maybe 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 *will not* be permitted to perform that day's experiment. Therefore, students should read and understand the lab BEFORE they attempt the pre-lab quiz.**
Final Exam	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. • 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**.
Chemistry Stockroom SLC 3.221	Broken items will need to be replaced by filling out a breakage form with the appropriate information. The TA will assist in filling the breakage form and submitting it to the Chemistry stockroom manager along with a copy of your comet card. 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.
Special Assignments	None
Extra Credit	None

Comet Creed	*This creed was voted on by the UT Dallas student body in 2014. It is a standard that Comets choose to live by and encourage others to do the same:* "As a Comet, I pledge honesty, integrity, and service in all that I do."
UT Dallas Syllabus Policies and Procedures	*The information contained in the following link constitutes the University's policies and procedures segment of the course syllabus.* *Please go to http://go.utdallas.edu/syllabus-policies for these policies.*

These descriptions and timelines contained in this syllabus are subject to change at the discretion of the Professor.