CHEM 1442 General Chemistry 2
Section 002 Tuesday/Thursday 9:30 – 10:50 am (SH 101)

Instructor:
Dr. Jimmy R. Rogers (Profile URL: https://mentis.uta.edu/explore/profile/jimmy-rogers)
Office Hours: 2:00-3:30 pm Monday-Thursday
Science Hall 300 D, 817-272-5442
jimrogers@uta.edu

Required Materials:

1) Access to the online tutoring system: ALEKS (www.aleks.com). Instructions for the ALEKS online homework system are posted on Blackboard (https://elearn.uta.edu).
2) *General Chemistry 2*, First Edition, Jimmy R. Rogers. (Available at the UTA bookstore.)
3) **CHEM 1442 Lab Manual** (You need the most current edition sold at the UTA bookstore) and **duplicating-page lab notebook** (sold at the UTA bookstore).
4) A scientific calculator (non-programmable and non-graphing; for example, Texas Instrument 30 XIIS is recommended). **Note that TI-36X Pro is NOT allowed.**
5) You are required to have an i<Clicker 2 for our class and you need to register your i<Clicker 2 on Blackboard (purchased or rented from the UTA bookstore). (You may also use the mobile app.)

Course Prerequisites: The prerequisite for CHEM 1442 is successful completion of CHEM 1441, or equivalent, with a grade of C or better. Furthermore, in order to receive credit for this course, you must also be enrolled in a CHEM 1442 lab.

Course Description and Student Learning Outcomes: Upon completing the course, the student should be able to 1) understand how intermolecular forces are related to physical properties of matter, 2) predict the properties of solutions, 3) understand chemical kinetics and their relationship to reaction mechanisms, and be able to perform calculations related to the rates of chemical reactions, 4) understand chemical equilibrium and its application to gas phase equilibria, heterogeneous equilibria, acid-base equilibria, and solubility and complex ion equilibria, 5) use the concepts of thermodynamics to predict the spontaneity of processes, as well as the changes in free energy, entropy, and enthalpy, 6) understand the basic concepts of electrochemistry and be able to use standard reduction potentials to calculate quantities involved in an electrochemical reaction, and 7) understand nuclear chemistry, including calculations involving the rates of radioactive decay and binding energies of nucleons.

Attendance: At The University of Texas at Arlington, taking attendance is not required. Rather, each faculty member is free to develop his or her own methods of evaluating students' academic performance, which includes establishing course-specific policies on attendance. *As the instructor of this section, I have elected to take attendance because most students in General Chemistry find that faithful attendance is necessary for succeeding in this course.* However, while UT Arlington does not require instructors to take attendance in their courses, the U.S. Department of Education requires that the University have a mechanism in place to mark when Federal Student Aid recipients "begin attendance in a course." UT Arlington instructors will report when students begin attendance in a course as part of the final grading process. Specifically, when assigning a student a grade of F, faculty report the last date a student attended their class based on evidence such as a test, participation in a class project or presentation, or an engagement online via Blackboard. This date is reported to the Department of Education for federal financial aid recipients.

Expectations for Out-of-Class Study: Beyond the time required to attend each class meeting, students enrolled in this course should expect to spend at least an additional twelve hours per week of their own time in course-related activities, including reading required materials, completing assignments, preparing for exams, and preparing for lab.

Other Requirements:

1) Read this syllabus carefully. You are responsible for knowing all of the course policies listed in this syllabus.
2) Prior to class, read the chapter that will be covered in lecture.
3) Review your lecture notes after each class. Correct obvious errors and note topics that require further study or clarification.
4) Work **all** of the homework problems. Do **not** look at the answers until you have given your **best** effort to solve the problem on your own. **Practice the problems that you find difficult until you are able to solve them without consulting the answers. This is the one of the most effective strategies you can use for exam preparation.**
5) Don't procrastinate. These concepts take time to sink in, and you may have to practice these exercises over a period of many days in order master the necessary skills.

Tentative Lecture Schedule: The following represents a *tentative* schedule of lectures and examination material for this semester. Tentative exam dates are specified in **bold**. The exact dates of the four midterm exams will be announced in class. All due dates of homework assignments are available directly on its website. You are responsible for checking them and completing them by the due dates. ***As the instructor for this course, I reserve the right to adjust this schedule in any way that serves the educational needs of the students enrolled in this course.*** **Note that the Final Exam is scheduled for Wednesday, December 12 from 5:30 to 8:00 PM. Make sure to save this date because no make-up final exam will be given.**

Week of:	*Lecture Material*
Aug. 22 - 24	Chapter 11, "Intermolecular Forces."
Aug. 27 - 31	Continue Chapter 11.
Sept. 3	*No Class: Labor Day Holiday*
Sept. 4 - 7	Chapter 12, "Solutions."
Sept. 10 - 14	Continue Chapter 12.
Sept. 17 - 21	**Exam 1 on Chapters 11 and 12.** Begin Chapter 13, "Chemical Kinetics."
Sept. 24 - 28	Continue Chapter 13.
Oct. 1 - 5	Chapter 14, "Chemical Equilibrium."
Oct. 8 - 12	**Exam 2 on Chapters 13 and 14.** Begin Chapter 15, "Acid-Base Equilibria."
Oct. 15 - 19	Continue Chapter 15.
Oct. 22 - 26	Chapter 16, "Aqueous Equilibria: Buffers, Titrations, and K_{sp}."
Oct. 29 – Nov. 2	Continue Chapter 16.
Nov. 2	*Last Day to Drop Classes: submit requests to advisor prior to 4:00 PM.*
Nov. 5 - 9	**Exam 3 on Chapters 15 and 16.** Begin Chapter 17, "Chemical Thermodynamics."
Nov. 12 - 16	Continue Chapter 17. Begin Chapter 18, "Oxidation-Reduction Reactions."
Nov. 19 - 20	Continue Chapter 18.
Nov. 21 - 23	*No Class: Thanksgiving Holiday*
Nov. 26 - 30	**Exam 4 on Chapters 17 and 18**. Begin Chapter 19, "Electrochemistry."
Dec. 3 - 4	Continue Chapter 19.
Dec. 12	**Comprehensive Departmental Final Examination, 5:30-8:00 PM.** Room locations for the final exam will be announced in class shortly before the end of the semester.

Important Dates

August 22	First Day of Classes
September 3	Labor Day Holiday – Classes do not meet.
September 7	Census Date
November 2	Last Day to Drop Classes: submit requests to advisor prior to 4:00 PM.
November 21-23	Thanksgiving Holidays – Classes do not meet.
December 4	Last Day of Classes
December 12	Final Exam from 5:30 PM to 8:00 PM.

Major Assignments and Examinations

Five exams will be given. These exams will cover the reading, lecture material, homework, and assigned problems. Four mid-term exams (Exam 1 through Exam 4) will be administered during the semester in-class period. The final exam is a comprehensive, departmental exam, and it will be administered in **two hours and 30 minutes**. Web-based homework problems will be assigned and graded. More information (Registration, Login and Grading Policy) about the online homework system will be posted on the Blackboard course site. None of the homework assignments will be dropped. All due dates for homework assignments are directly available on the online homework site. You are responsible for checking them and completing them by the due dates.

Examination Needs: You must bring the following to each examination.

1) Scientific Calculator (You may not use a graphing calculator or a calculator capable of storing alpha-numeric/textual material). (Note that TI-36X Pro is **NOT** allowed.)
2) No. 2 pencils with eraser.
3) NCS Answer Sheet 4521, available at the UTA Bookstore (or, an answer form specified by your instructor).
4) UTA Student ID Card.
5) Students are NOT allowed to have access to cell phones during any exam.

Grading: The grade in this course will be determined in the following manner.

Grade Category	Category Weight
Mid-Term Exam Average	40%
Comprehensive Final Exam	20%
Laboratory Average	25%
Homework Average	10%
Class Participation Average	5%
Total Course Score	**100%**

1) Four mid-term exams will be given. These exams will cover the reading, lecture material, and assigned problems. The final exam will be comprehensive and will be given on **Wednesday, December 12 from 5:30 to 8:00 PM.**
2) **Make-up Exam Policy.** No make-up exams will be given, and any missed exams will result in a grade of zero. However, the final exam score will replace the lowest mid-term exam score if it is to the student's benefit. The final exam score will not be replaced.
3) Exams will not be curved, and individual extra-credit assignments will not be given.
4) **If you drop or fail Chemistry 1442, grades earned in the lab cannot be carried over when you re-take Chemistry 1442.**
5) The letter grade will be assigned according to the following scale:

Total Numerical Grade	***Letter Grade***
90-100	A
80-89	B
70-79	C
60-69	D
Below 60	F

Participation
Class participation is required and will be 5% of your grade. Your participation average will be determined using the i<clicker 2, which all students are required to bring to each class. If you forget to bring your i<clicker, or if you allow the battery to run out, you will receive a zero participation grade for the day. The participation grades for two class periods will be dropped, so if you forget to bring your i<clicker or if you are absent for up to two days, your participation grade will not be lowered. However, if you have more than two absences or two periods where you have no i<clicker, your participation grade will be lowered accordingly.

Homework Grade
Your homework grade will be calculated using the following formula:

$$\textbf{Homework Grade} = 0.5 \times (\textbf{Chapter Average}) + 0.5 \times (\textbf{Course Mastery})$$

Chapter Average is the average of homework scores (including the pre-course assignment score). Course Mastery (or Pie Progress in Gradebook) represents the topics you have learned in this course by 11:59 pm (CT) on **Tuesday, December 11, 2018**. Course Mastery is NOT equivalent to Chapter Average. The student might have a 100% average in all chapter assignments, but you might not have 100% Course Mastery because topics you answer incorrectly during each periodic assessment will be added back to your "ALEKS Pie".

There are two ways to improve Course Mastery. 1) If you complete a homework assignment before its due date, then you can work on any topics left on the "ALEKS Pie". 2) After you complete the last assignment, you will be prompted to take the final assessment. After the final assessment, you will be able to complete any topics left on "ALEKS Pie". **Our recommendation is the first option:** Complete each homework assignment before its due date and start working on left-over topics that you need to master so that you can avoid cramming just before the final exam.

Bonus Points
This semester, we are using the first edition of Dr. Rogers' *General Chemistry 2* textbook. The early drafts of any book will have typographical errors, and bonus points will be awarded to students who find the typos and notify Dr. Rogers by email (jimrogers@uta.edu). The first student who finds a typo gets a bonus point, based on the date and time stamp of the email.

There will be one bonus point per typo, added to your highest midterm exam grade. The chapter pdfs will be frequently updated on Blackboard, so before submitting a correction, please check the latest version. *When you send your correction to Dr. Rogers, please let him know your section number (section -001, -002, or -003). All submissions for bonus points must be received by 11:59 pm December 9, 2018.*

Blackboard
Students are responsible for checking the blackboard course website (**https://elearn.uta.edu/**) as well as their UTA email (the one ending in "mavs.uta.edu") for correspondence and announcements related to the course. Instructional materials (videos, activity sheets, study guides, etc.) will be posted on the course website.

Cell Phones and Pagers (or any unnecessary electronic gadgets): Please silence all cell phones and pagers prior to class.

Student Support Services: UT Arlington provides a variety of resources and programs designed to help students develop academic skills, deal with personal situations, and better understand concepts and information related to their courses. Resources include tutoring, major-based learning centers, developmental education, advising and mentoring, personal counseling, and federally funded programs. For individualized referrals, students may visit the reception desk at University College (Ransom Hall), call the Maverick Resource Hotline at 817-272-6107, send a message to resources@uta.edu, or view the information at http://www.uta.edu/universitycollege/resources/index.php.

University Tutorial & Supplemental Instruction (Ransom Hall 205): UTSI offers a variety of academic support services for undergraduate students, including: 60 minute one-on-one tutoring sessions, Start Strong Freshman tutoring program, and Supplemental Instruction. Office hours are Monday-Friday 8:00am-5:00pm. For more information visit www.uta.edu/utsi or call 817-272-2617.

The IDEAS Center (2nd Floor of Central Library) offers **FREE** tutoring to all students with a focus on transfer students, sophomores, veterans and others undergoing a transition to UT Arlington. Students can drop in, or check the schedule of available peer tutors at www.uta.edu/IDEAS, or call (817) 272-6593.

Chemistry Clinic: The Chemistry Clinic, located in Room 318 Science Hall, will be staffed with tutors available to answer your questions related to lecture and homework. This service is free for all UT-Arlington students enrolled in Chemistry 1441 and 1442. Unless otherwise posted, the Chemistry Clinic will be open the following hours:
[hours to be announced]
(Note: The Chemistry Clinic will be closed during official holidays, as well as any day that the University is closed due to inclement weather.)

The Library's 2nd floor Academic Plaza offers students a central hub of support services, including IDEAS Center, University Advising Services, Transfer UTA and various college/school advising hours. Services are available during the library's hours of operation. http://library.uta.edu/academic-plaza

Drop Policy: Students may drop or swap (adding and dropping a class concurrently) classes through self-service in MyMav from the beginning of the registration period through the late registration period. *After the late registration period, students must see their academic advisor to drop a class or withdraw.* Undeclared students must see an advisor in the University Advising Center. Drops can continue through a point two-thirds of the way through the term or session. It is the student's responsibility to officially withdraw if they do not plan to attend after registering. **Students will not be automatically dropped for non-attendance.** Repayment of certain types of financial aid administered through the University may be required as the result of dropping classes or withdrawing. For more information, contact the Office of Financial Aid and Scholarships (http://wweb.uta.edu/aao/fao/).

Disability Accommodations: UT Arlington is on record as being committed to both the spirit and letter of all federal equal opportunity legislation, including *The Americans with Disabilities Act (ADA), The Americans with Disabilities Amendments Act (ADAAA),* and *Section 504 of the Rehabilitation Act.* All instructors at UT Arlington are required by law to provide "reasonable accommodations" to students with disabilities, so as not to discriminate on the basis of disability. Students are responsible for providing the instructor with official notification in the form of **a letter certified** by the Office for Students with Disabilities (OSD). Only those students who have officially documented a need for an accommodation will have their request honored. Students experiencing a range of conditions (Physical, Learning, Chronic Health, Mental Health, and Sensory) that may cause diminished academic performance or other barriers to learning may seek services and/or accommodations by contacting: **The Office for**

Students with Disabilities, (OSD) www.uta.edu/disability or calling 817-272-3364. Information regarding diagnostic criteria and policies for obtaining disability-based academic accommodations can be found at www.uta.edu/disability. **Counseling and Psychological Services, (CAPS)** www.uta.edu/caps/ or calling 817-272-3671 is also available to all students to help increase their understanding of personal issues, address mental and behavioral health problems and make positive changes in their lives.

Non-Discrimination Policy: The University of Texas at Arlington does not discriminate on the basis of race, color, national origin, religion, age, gender, sexual orientation, disabilities, genetic information, and/or veteran status in its educational programs or activities it operates. For more information, visit uta.edu/eos

Title IX Policy: The University of Texas at Arlington ("University") is committed to maintaining a learning and working environment that is free from discrimination based on sex in accordance with Title IX of the Higher Education Amendments of 1972 (Title IX), which prohibits discrimination on the basis of sex in educational programs or activities; Title VII of the Civil Rights Act of 1964 (Title VII), which prohibits sex discrimination in employment; and the Campus Sexual Violence Elimination Act (SaVE Act). Sexual misconduct is a form of sex discrimination and will not be tolerated. *For information regarding Title IX, visit* www.uta.edu/titleIX or contact Ms. Jean Hood, Vice President and Title IX Coordinator at (817) 272-7091 or jmhood@uta.edu.

Academic Integrity: Students enrolled all UT Arlington courses are expected to adhere to the UT Arlington Honor Code:

> *I pledge, on my honor, to uphold UT Arlington's tradition of academic integrity, a tradition that values hard work and honest effort in the pursuit of academic excellence.*
>
> *I promise that I will submit only work that I personally create or contribute to group collaborations, and I will appropriately reference any work from other sources. I will follow the highest standards of integrity and uphold the spirit of the Honor Code.*

UT Arlington faculty members may employ the Honor Code in their courses by having students acknowledge the honor code as part of an examination or requiring students to incorporate the honor code into any work submitted. Per UT System *Regents' Rule* 50101, §2.2, suspected violations of university's standards for academic integrity (including the Honor Code) will be referred to the Office of Student Conduct. Violators will be disciplined in accordance with University policy, which may result in the student's suspension or expulsion from the University. Additional information is available at https://www.uta.edu/conduct/.

Lab Safety Training: Students registered for this course must complete all required lab safety training prior to entering the lab and undertaking any activities. Once completed, Lab Safety Training is valid for the remainder of the same academic year (i.e., through the following August) and must be completed anew in subsequent years. There are no exceptions to this University policy. Failure to complete the required training will preclude participation in any lab activities, including those for which a grade is assigned. Instructions for completing lab safety training are given separately in the lab syllabus of this course.

Electronic Communication: UT Arlington has adopted MavMail as its official means to communicate with students about important deadlines and events, as well as to transact university-related business regarding financial aid, tuition, grades, graduation, etc. All students are assigned a MavMail account and are responsible for checking the inbox regularly. There is no additional charge to students for using this account, which remains active even after graduation. Information about activating and using MavMail is available at http://www.uta.edu/oit/cs/email/mavmail.php.

Campus Carry: Effective August 1, 2016, the Campus Carry law (Senate Bill 11) allows those licensed individuals to carry a concealed handgun in buildings on public university campuses, except in locations the University establishes as prohibited. Under the new law, openly carrying handguns is not allowed on college campuses. For more information, visit http://www.uta.edu/news/info/campus-carry/

Student Feedback Survey: At the end of each term, students enrolled in face-to-face and online classes categorized as "lecture," "seminar," or "laboratory" are directed to complete an online Student Feedback Survey (SFS). Instructions on how to access the SFS for this course will be sent directly to each student through MavMail approximately 10 days before the end of the term. Each student's feedback via the SFS database is aggregated with that of other students enrolled in the course. Students' anonymity will be protected to the extent that the law allows. UT Arlington's effort to solicit, gather, tabulate, and publish student feedback is required by state law and aggregate results are posted online. Data from SFS is also used for faculty and program evaluations. For more information, visit http://www.uta.edu/sfs.

Final Review Week: For semester-long courses, a period of five class days prior to the first day of final examinations in the long sessions shall be designated as Final Review Week. The purpose of this week is to allow students sufficient time to prepare for final examinations. During this week, there shall be no scheduled activities such as required field trips or performances; and no instructor shall assign any themes, research problems or exercises of similar scope that have a completion date during or following this week *unless specified in the class syllabus*. During Final Review Week, an instructor shall not give any examinations constituting 10% or more of the final grade, except makeup tests and laboratory examinations. In addition, no instructor shall give any portion of the final examination during Final Review Week. During this week, classes are held as scheduled. In addition, instructors are not required to limit content to topics that have been previously covered; they may introduce new concepts as appropriate.

Emergency Exit Procedures: Should we experience an emergency event that requires us to vacate the building, students should exit the room and move toward the nearest exit, which is located **at the front/back of the room**. When exiting the building during an emergency, one should never take an elevator but should use the stairwells. Faculty members and instructional staff will assist students in selecting the safest route for evacuation and will make arrangements to assist individuals with disabilities.

Emergency Phone Numbers: In case of an on-campus emergency, call the UT Arlington Police Department at **817-272-3003** (non-campus phone), **2-3003** (campus phone). You may also dial 911.