

Syllabus Chemistry 1442 Spring 2012

Instructor:

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Required Materials: *Chemistry: A Molecular Approach*, Second Edition, by Nivaldo J. Tro
Mastering Chemistry Access (available with the Tro textbook and from <http://masteringchemistry.com>)

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

Tentative Lecture Schedule: The following represents a tentative schedule of lecture and examination material for this semester. *The exact dates of the four major exams will be announced in class.* Note that the Comprehensive Departmental Final Exam is scheduled for Wednesday, May 9, at 5:30 PM.

Week of:	Lecture Material
January 17-20	Chapter 12, "Solutions."
January 23-27	Finish Chapter 12.
Jan. 30– Feb. 3	Begin Chapter 13, "Chemical Kinetics."
February 6-10	Finish Chapter 13.
February 13-17	Exam 1 on Chapters 12 and 13. Begin Chapter 14, "Chemical Equilibrium."
February 20-24	Finish Chapter 14. Begin Chapter 15, "Acids and Bases."
Feb. 27 – March 2	Finish Chapter 15.
March 5-9	Exam 2 on Chapters 14 and 15. Begin Chapter 16, "Aqueous Ionic Equilibrium."
March 12-16	<i>Spring Break. Classes do not meet.</i>
March 19-23	Finish Chapter 16. Begin Chapter 17, "Free Energy and Thermodynamics."
March 26-30	Finish Chapter 17.
March 30	<i>Last day to drop a class. Please review UT-Arlington's Drop Policy below.</i>
April 2-6	Exam 3 on Chapters 16 and 17. Section 4.9, "Oxidation-Reduction Reactions."
April 9-13	Begin Chapter 18, "Electrochemistry."
April 16-20	Finish Chapter 18.
April 23-27	Exam 4 on Section 4.9 and Chapter 18. Begin Chapter 19, "Radioactivity and Nuclear Chemistry."
April 30 – May 4	Finish Chapter 19.
May 9	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.

Dropping the Course:

Students may drop or swap (i.e., add/drop simultaneously) 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. Contact the Office of Financial Aid and Scholarships for more information (<http://wweb.uta.edu/ses/fao>).

Paperwork: When dropping the course, *you* are responsible for seeing that all of the proper paperwork is completed and submitted to your academic advisor. If this paperwork is not completed, you will receive a letter grade corresponding to your earned grade, including zeros for all missed work.

Grading:	Lab Average	25%	
	Homework/Quizzes/Class Attendance and Participation	10%	
	4 mid-term exams	40%	
	Comprehensive Final Exam	25%	Wednesday, May 9, 5:30-8:00 PM

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, May 9. Grades will be assigned according to the following scale:

<u>Total Numerical Grade</u>	<u>Letter Grade</u>
90-100	A
80-89	B
70-79	C
60-69	D
Below 60	F

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.

If you drop or fail Chemistry 1442, grades earned in the lab cannot be carried over when you re-take Chemistry 1442.

Homework: Web-based homework problems will be assigned. More information will be given in a class hand-out.

Electronic Communication Policy: 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>.

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

Scientific Calculator (You may not use a graphing calculator or a calculator capable of storing alpha-numeric/textual material.)

No. 2 pencils with eraser

NCS Answer Sheet 4521, or answer sheet specified by your instructor (available at the UTA Bookstore)

UT-Arlington Student ID Card or other valid photo ID

Students are not allowed to have access to cell phones during any exam.

Cell Phones: Please silence all cell phones prior to class. *Texting during class is inappropriate and will not be tolerated.*

Course Goals: Upon completing the course, the student should be able to

- 1) predict the properties of solutions;
- 2) understand chemical kinetics and their relationship to reaction mechanisms, and be able to perform calculations related to the rates of chemical reactions;
- 3) understand chemical equilibrium and its application to gas phase equilibria, heterogeneous equilibria, acid-base equilibria, and solubility and complex ion equilibria;
- 4) use the concepts of thermodynamics to predict the spontaneity of processes, as well as the changes in free energy, entropy, and enthalpy;
- 5) understand the basic concepts of electrochemistry and be able to use standard reduction potentials to calculate quantities involved in an electrochemical reaction;
- 6) understand nuclear chemistry, including calculations involving the rates of radioactive decay and binding energies of nucleons.

Chemistry Assistance:

Problem-Solving Session: Dr. Rogers will conduct an optional Problem-Solving Session for CHEM 1442 every Tuesday afternoon from 4:00-5:30 PM in SH 100. All CHEM 1442 students are welcome to attend.

Supplemental Instruction: Supplemental Instruction (SI) consists of regularly scheduled study sessions to help students with course content, study skills, and exam preparation. All Chemistry 1442 students are encouraged to participate.

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. Hours of the Chemistry Clinic will be announced in class. This service is free for students enrolled in Chemistry 1441 and 1442.

Science Education and Career Center: The Science Education and Career Center, located in Room 105 of the Life Science Building, provides a variety of materials for assisting Chemistry students, including old exams.

University Tutorial: Cost-share tutoring is available for \$6.50 per hour through University Tutorial, located in the University College, Ransom Hall, Suite 205.

Strategies for Succeeding in Chemistry 1442:

1. Attend *every* lecture. A very strong correlation exists between attendance and success in Chemistry 1442. Because the topics covered in this course build on each other, missing even one class can mean the difference between success and failure in the course.
2. Prior to class, read the chapter which will be covered in lecture.
3. Review your lecture notes after each class. Correct obvious errors and note topics which require further study or clarification.
4. Work all of the suggested homework problems. Do not look in the solutions manual until you have given your best effort to solve the problem on your own.
5. Use practice tests available from the Science Education and Career Center.
6. Spend the necessary amount of time studying chemistry. The rule of thumb for succeeding in Chemistry is three hours of study for every hour of lecture. This means that at a minimum you should plan to study Chemistry nine hours each week.
7. 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.
8. Form a study group. This is your first avenue for getting help. Be able to communicate with each other on short notice, not just before class.

Student Feedback Survey: At the end of each term, students enrolled in classes categorized as lecture, seminar, or laboratory will be asked to complete an online Student Feedback Survey (SFS) about the course and how it was taught. Instructions on how to access the SFS system will be sent directly to students through MavMail approximately 10 days before the end of the term. UT Arlington's effort to solicit, gather, tabulate, and publish student feedback data is required by state law; student participation in the SFS program is voluntary.

Final Review Week: 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.

Academic Integrity: At UT Arlington, academic dishonesty is completely unacceptable and will not be tolerated in any form, including (but 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" (UT System Regents' Rule 50101, §2.2). Suspected violations of academic integrity standards 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.

Americans with Disabilities Act: The University of Texas at 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)*. 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 that disability. Any student requiring an accommodation for this course must provide the instructor with official documentation in the form of a letter certified by the staff in the Office for Students with Disabilities, University Hall 102. Only those students who have officially documented a need for an accommodation will have their request honored. Information regarding diagnostic criteria and policies for obtaining disability-based academic accommodations can be found at www.uta.edu/disability or by calling the Office for Students with Disabilities at (817) 272-3364.

Bomb Threats: In the event of a bomb threat to a specific facility, University Police will evaluate the threat. If required, exams may be moved to an alternate location, but **exams will not be postponed**. UT-Arlington will prosecute those phoning in bomb threats to the fullest extent of the law.