

Syllabus: CHEM 1451-001 General and Biological Chemistry, Spring 2009, MWF 9:00 AM – 9:50 PM (SH 121)

Instructor: Dr. Seichiro Tanizaki, 303 B Science Hall, 817.272.1056, tanizaki@uta.edu.
Office Hours: MWF 1:00 PM to 3:00 PM or by appointment.

Required Materials:

- 1) *General, Organic, and Biological Chemistry*, 2nd edition, by Kenneth W. Raymond.
- 2) *Laboratory Manual: General, Organic, and Biological Chemistry* by David. B. Macaulay et. al.
- 3) WebAssign Code (purchased at UTA bookstore or paid on-line)
- 4) A scientific calculator (non-programmable and non-graphing; for example, SHARP EL-501WBBK, CASIO 115, Texas Instrument 30 XIIS).

Course Prerequisites: This course is intended for students pursuing a career in nursing, and all students should have completed MATH 1301, 1302 or equivalent. To receive credit for CHEM 1451, you must also be enrolled in CHEM 1451 lab. CHEM 1451 cannot be counted for major credit toward a degree in science or engineering.

Tentative Lecture Schedule: The following represents a *tentative* schedule of lectures and examination material for this semester. *The exact dates of the four in-class exams will be announced in class.* Note that the Final Exam is scheduled for Wednesday, May 13, at 9:00 AM – 10:30 PM.

Date	Lecture Material (Reading Assignments)
January 21, 23	Chapter 1 "Science and Measurements" (Sections 3 – 6).
26, 28, 30	Chapter 2 "Atoms and Elements" (Sections 1 – 5); Start Chapter 3 "Compounds" (Sections 1 – 7).
February 2, 4, 6	Continue Chapter 3; Start Chapter 4 Part 1 (Sections 1 – 3).
9, 11, 13	Finish Chapter 4 "An Introduction to Organic Compounds" Part 1 (Sections 1 – 3). February 11: Exam 1 on Chapters 1, 2, 3, and 4 Part 1.
	Chapter 4 "An Introduction to Organic Compounds" Part 2 (Sections 4 – 9).
16, 18, 20	Continue Chapter 4 Part 2.
23, 25, 27	Chapter 6 "Reactions" (Sections 1 – 5).
March 2, 4, 6	Chapter 7 "Solutions, Colloids, and Suspensions". (Sections 1 – 6).
9, 11, 13	March 9: Exam 2 on Chapters 4 Part 2, 6, and 7. Chapter 9 "Acids, Bases, and Equilibrium" (Sections 1 – 11).
16, 18, 20	<i>Spring Break. Classes do not meet.</i>
23, 25, 27	Continue Chapter 9
April 30, 1, 3	Chapter 10 "Carboxylic Acids, Phenols, and Amines" (Sections 1 – 8).
6, 8, 10	Chapter 11 "Alcohols, Ethers, Aldehydes, and Ketones" (Sections 1 – 7).
13, 15, 17	April 13: Exam 3 on Chapters 9, 10 and 11.
20, 22, 24	Chapter 8 "Lipids and Membranes" (Sections 1 – 7).
May 27, 29, 1	Chapter 12 "Carbohydrates" (Sections 1 – 5).
4, 6, 8	Chapter 13 "Peptides, Proteins, and Enzymes" (Sections 1 – 4).
13	Chapter 14 "Nucleic Acid" (Section 1 – 4). May 13: Exam 4 (Final Exam) on Chapters 8, 12, 13, and 14.

Important Dates:

January 19 Martin Luther King Jr. Day Holiday. Classes do not meet.
February 4 Census Date.
March 16 – 20 Spring Vacation. Classes do not meet.
April 3 Last Day to Drop Classes.

WebCT: You are responsible for checking your WebCT (<https://webct.uta.edu>). Worksheets, the learning objectives (that includes the suggested end-of-the-chapter problems), and lecture notes will be posted on WebCT. Make sure to print out and bring worksheets before you come to class. More information will be given in a separate hand-out.

Dropping the Course: If you need to drop the course, please see your major advisor. If you are an undeclared major and you need to drop the course, please see an advisor at the University Advising Center on the second floor of Davis Hall.

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

Grading:

(1) The grade in this course will be determined in the following manner.

Laboratory Average	25%
4 Exams	65%
Homework	10%

(2) ***You must receive at least a 60 % average in lab to be eligible to pass the course.*** In other words, if your final lab average is below 60%, then you will automatically receive F in this course.

(3) An in-class quiz will be given during lecture. I suggest that you bring the non-graphing non-programmable calculator to every class period for in-class quiz. You must take a quiz without calculator if you don't bring an appropriate calculator. You are not allowed to use the cell phone or any other alternative as a calculator.

(4) Four exams will be given. These exams will cover the reading, lecture material, homework, and assigned problems. Exam 4 will be given during the final exam week and will be given on Wednesday, May 13, at 9:00 AM.

(5) No make-up exams/quizzes will be given, and any missed exams/quizzes will result in a grade of zero. However, the final exam (Exam 4) score will replace the lowest one-hour exam score if it is to the student's benefit.

(6) There will be no curving on exams or no extra credit assignments in this course.

(7) *If you drop or fail Chemistry 1451, grades earned in the lab cannot be carried over when you re-take Chemistry 1451.*

(8) Grades will be assigned according to the following scale.

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

Homework: Web-based homework problems will be assigned. More information will be given in a separate hand-out. Also, in order to prepare for exams, the end-of-the chapter problems are suggested in the learning objectives for each chapter. Students should *practice* them for succeeding in this course.

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, available at the UTA Bookstore (or, an answer form specified by your instructor)

UTA Student ID Card

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

Cell Phones and Pagers: Please silence all cell phones and pagers prior to class.

Course Goals: Upon completing the course, the student should be able to major concepts in general, organic and biochemistry.

- 1) (General Chemistry) understand scientific measurement, atomic theory and structure, chemical bonding, quantitative relationship in chemical reactions;
- 2) (Organic Chemistry) understand organic functional groups and nomenclature, organic reactions, and properties of organic compounds;
- 3) (Biochemistry) understand proteins, lipids, and enzymes (additionally, metabolism, and nucleic acids if time permits.)

Class Communication: E-mail is the prime means for communication. Therefore, the University has the right to send communications to students via e-mail and the right to expect that those communications will be received and read in a timely fashion. The Office of Information Technology (OIT) will assign all students an official University e-mail address. It is to this official address that the University will send e-mail communications. Students are expected to check their official e-mail account on a frequent and consistent basis to stay current with University communication. The University recommends checking e-mail daily, in recognition that certain communications may be time-critical.

Chemistry Assistance:

Chemistry Clinic: The Chemistry Clinic, located in Room 219 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 1451.

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.

SOAR Cost Share Tutoring: SOAR (Students Obtaining Academic Readiness) is located in 132 Hammond Hall and offers free academic support for qualifying students and low-cost services for all students, including Cost Share Tutoring.

Strategies for Succeeding in Chemistry 1451:

1. Attend *every* lecture. A very strong correlation exists between attendance and success in Chemistry 1451. 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. 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.
6. 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.
7. 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.

Academic Dishonesty: All students are expected to pursue their scholastic careers with honesty and integrity, and the Department of Chemistry and Biochemistry will not tolerate academic dishonesty in any form. "Scholastic dishonesty includes but is not limited to cheating, 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." (Regents' Rules and Regulations, Series 50101, Section 2.2)

Examples of academic dishonesty include:

- exchanging answers or information during a test or quiz
- looking at another student's paper during a test or quiz
- bringing notes in any form into the test or quiz, including written notes (crib sheets), digitally stored information (including formulas, constants, alpha-numeric material or text), or notes stored in any other medium
- looking at a book or other source during the quiz or test

During tests or quizzes, students are not allowed to use any hand-held calculators or computers which possess the capability of storing alpha-numeric or textual material. If the instructor allows the use of calculators on a particular test, then students may only use scientific calculators which are non-programmable. In addition, students are not allowed to have access to digital pagers during any test or quiz. Students who violate University rules on scholastic dishonesty are subject to disciplinary penalties, including the possibility of failure in the course and dismissal from the University. Since dishonesty harms the individual, all students, and the integrity of the University, policies on scholastic dishonesty will be strictly enforced.

Americans with Disabilities Act: The University of Texas at Arlington is on record as being committed to both the spirit and letter of federal equal opportunity legislation; reference Public Law 92-112 - The Rehabilitation Act of 1973 as amended. With the passage of federal legislation entitled *Americans with Disabilities Act (ADA)*, pursuant to section 504 of the Rehabilitation Act, there is renewed focus on providing this population with the same opportunities enjoyed by all citizens.

As a faculty member, I am required by law to provide "reasonable accommodations" to students with disabilities, so as not to discriminate on the basis of that disability. Student responsibility primarily rests with informing faculty of their need for accommodation and in providing authorized documentation through designated administrative channels. Information regarding specific diagnostic criteria and policies for obtaining academic accommodations can be found at www.uta.edu/disability. Also, you may visit the Office for Students with Disabilities in room 102 of University Hall or call them at (817) 272-3364.