

CHEM 1451 Chemistry for Health Sciences
Section 001 MWF 11:00 AM – 11:50 PM (SH 100)

Instructor: Dr. Seiichiro Tanizaki (Profile URL: <https://www.uta.edu/profiles/seiichiro-tanizaki>)

Office Hours: **Tuesday 11:00 AM – Noon or by appointment.**

300 G Science Hall, 817.272.1056, tanizaki@uta.edu.

Course Description: Survey of general, organic, and biochemistry with emphasis on applications to the human body. Measurement, atomic theory and structure, bonding, quantitative relationships in chemical reactions, gases, solutions, electrolytes, organic functional groups and nomenclature, organic reactions, carbohydrates, lipids, proteins, enzymes, metabolism, and nucleic acids.

Required Textbooks and Other Course Materials:

- 1) **The textbook** is *General, Organic and Biological Chemistry* (2nd edition) by Seiichiro Tanizaki (2017). The *E*-textbook comes with the online homework system. The hardcopy of the textbook is available at UTA bookstore because some students prefer to read a book on paper rather than on computer. Purchasing of the hardcopy is not required. The *E*-textbook uses colors (texts and figures), but the hardcopy is printed in black and white. The hardcopy of the textbook does not come with an access code to the online homework system. No other textbooks or the 1st edition will be supported.
- 2) Access to the online homework system. There is no option to purchase the access without the *E*-textbook. The instructions for purchasing access are given under the “**Homework**” section of this syllabus. You must know that when you withdraw from this course or incomplete this course, then you must purchase access again when you re-take this course or complete this course.
- 3) The lab manual is “General, Organic and Biological Chemistry CHEM 1451.” This lab manual is UTA-customized to minimize the cost. It is available only at the UTA bookstore (www.uta.edu/bookstore). **You must purchase the manual used in the current semester. The photocopy of the manual will NOT be accepted. (You do not need to buy a lab notebook.)**
- 4) A scientific calculator **with the mathematical logarithmic function** (It must be **non-programmable and non-graphing**; Texas Instrument 30Xa is recommended.) You are NOT allowed to use a programmable and/or graphing calculator during exams (No exceptions). You should become familiar with a required scientific calculator by using it while you work on homework assignments.
- 5) i>clicker 2: You can purchase an i>clicker 2 at the UTA bookstore. No cell phone options or other clicker models will be allowed in this course.

Course Prerequisites: All students should have completed MATH 1301 or MATH 1302 or MATH 1303 or MATH 1315 or MATH 1316 or MATH 1322 or MATH 1323 or MATH 1324 or MATH 1421 or MATH 1426 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.

Student Learning Outcomes: Upon completing the course, the student should be able to understand major concepts in general, organic and biochemistry. (More detailed learning objectives are given in separate handout available in Blackboard course sites.)

- 1) (**General Chemistry**) To understand scientific measurement, atomic theory and structure, chemical bonding, quantitative relationship in chemical reactions, and acid-base chemistry.
- 2) (**Organic Chemistry**) To understand nomenclature, chemical reactions and properties of organic compounds.
- 3) (**Biochemistry**) To understand molecular structures, chemical reactions and properties of carbohydrates, lipids, and proteins. If time permits, chemistry of nucleic acids will be included.

Attendance Policy: At The University of Texas at Arlington, taking attendance is not required but attendance is a critical indicator in student success. 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 will be using the i>clicker 2 student response system in class this term. Participation with i>clicker 2 will account for 10% of your course grade. 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 two hours per day of their own time in course-related activities, including reading required materials, completing assignments, preparing for exams, and preparing for lab.

Other Requirements:

- 1) A student must familiarize herself/himself with all requirements and policies **in this course of the current semester.**
- 2) Prior to class, read the chapter which will be covered in lecture and watch the pre-class lesson videos if provide.
- 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 homework problems and the-end-of-chapter questions of the textbook. Do not look in the solutions manual until you have given your best effort to solve the problem on your own. Practice the problems that you could not solve until you could solve them without solutions. This is the one of the most effective strategies that you could do to prepare for exams.
- 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.
- 6) Students are regularly responsible for checking the blackboard course website (<https://elearn.uta.edu/>). Instructional materials (study guides, etc.) will be posted on the course website.

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 and the Blackboard course site. All due date of homework assignments are available directly on its website. You will be 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 – Seïchiro Tanizaki”*. **The exam dates listed are tentative and, therefore, might be changed. You will be responsible to appear at the exact exam dates: no make-up exam will be given (See the Makeup Exam Policy in this syllabus). Note that the Final Exam is scheduled for Wednesday, May 9 from 11:00 AM to 12:30 PM. Make sure to save this date because no make-up final exam will be given.**

Date	Lecture Material (Reading Assignments)
January	17, 19 Chapter 1 “Measurements.”
	22, 24, 26 Chapter 2 “Atoms”.
Jan/Feb	29, 31 , 2 Review. Exam 1 on Chapter 1 and Chapter 2. Begin Chapter 3.
February	5, 7, 9 Continue Chapter 3 “Molecules, Ions, and Ionic Compounds”.
	12, 14, 16 Chapter 4 “Chemical Reactions”.
	19, 21 , 23 Review. Exam 2 on Chapter 3 and Chapter 4. Begin Chapter 5.
Feb/Mar	26, 28, 2 Chapter 5 “Solutions” and Chapter 6 “Acids and Bases.”
March	5, 7, 9 Chapter 6 “Acids and Bases”.
	12, 14, 16 Spring Vacation.
	19, 21 , 23 Review. Exam 3 on Chapter 5 and Chapter 6. Begin Chapter 7 “Organic Chemistry Part One”
	26, 28, 30 Continue Chapter 7.
April	2, 4, 6 Chapter 8 “Organic Chemistry Part Two”.
	9, 11 , 13 Review. Exam 4 on Chapter 7 and Chapter 8. Begin Chapter 9 “Carbohydrates”.
	16, 18, 20 Continue Chapter 9.
	23, 25, 27 Chapter 10 “Lipids”.
April/May	30, 2, 4 Chapter 11 “Amino Acids, and Proteins”.
May	9 Final Exam (Exam 5) on Chapter 9, Chapter 10, and Chapter 11.

Important Dates

January 15	Martin Luther King Jr. Day holiday: Classes do not meet.
January 16	First Day of Classes.
January 31	Census date.
March 12 – 17	Spring Vacation: Classes do not meet.
April 02	Last day to drop classes: Submit requests to advisor prior to 4:00 pm (CT).
May 04	Last day of classes.
May 09	Final Exam from 11:00 AM to 12:30 PM.

Grading: The grade in this course will be determined according to the following table.

Grade Category	Category Weight (%)
Exam Average	55%
Laboratory Average	25%
Homework Average	10%
Class Participation Average (= i>clicker Average)	10%
Total Course Score	100%

1) **You must receive at least 60% in lab average 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.

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 score among Exam 1, Exam 2, Exam 3, and Exam 4 if it is to the student's benefit. For example, if you miss one of midterm exams (Exam 1 through Exam 4), then the score of the missed exam will be replaced by the final exam score. Final exam score will neither be replaced nor dropped.

3) For all exams, you mark the answers you choose on the test itself for your own information and also on the standard answer sheet you provided. Scoring will be based on the answer sheet, and NOT on what you mark on the test itself. So please make sure to mark the answers carefully on the answer sheet.

4) There will be no curving on exams or no extra credit assignments in this course to a specific student.

5) **If you drop or fail CHEM 1451, grades earned in the lab and the homework cannot be carried over when you re-take CHEM 1451.**

6) All grades are calculated by rounding them off to two decimal places: If the digit to be removed is less than five, then it is rounded down. If the digit to be removed is equal to or larger than five, then it is rounded up. For example, if your calculated final grade is 89.564..., then your final grade is 89.56. Grades will be assigned according to the following scale.

Example: You had Exam 1 = 83, Exam 2 = 92, Exam 3 = 80 and Exam 4 = 65. You earned 82 in Final Exam. Also your lab average was 87, your homework average was 92 and your i>clicker score average was 90. Then, the "Exam Average" is calculated by replacing the exam 4 score with the final exam score:

$$\text{Exam Average} = (83 + 92 + 80 + 82 + 82) / 5 = 83.80$$

All of scores are expressed in points before they are multiplied by weighting factor. Your total course score is calculated by using the category weight specified in the table. For example, if a student earns exam average = 83.80, lab average = 87.00, homework average = 92.00 and participation = 90.00, the total course score is calculated as follows.

$$\text{Total Course Score} = (0.55) \times (83.80) + (0.25) \times (87.00) + (0.10) \times (92.00) + (0.10) \times (90.00) = 86.04$$

The grading policy is **NOT** the same as dropping the lowest exam score. **If your final exam score is the lowest**, then final exam score is NOT replaced by any other exam scores. All **FIVE** exam scores (none dropped) are used to calculate the "Exam Average" without replacement.

Example: You had Exam 1 = 83, Exam 2 = 92, Exam 3 = 80 and Exam 4 = 65. You earned 60 in Final Exam which is the lowest among five exam scores. Then the exam average is calculated by

$$(83 + 92 + 80 + 65 + 60) / 5 = 76.00$$

Total Course Score (%)	90 and above	80 – less than 90	70 – less than 80	60 – less than 70	Below 60
Letter Grade	A	B	C	D	F

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 in **50 minutes** during the semester in class period. Final exam will be administered in **one and a half hours**. Web-based homework problems will be assigned and graded. You must also be enrolled in CHEM 1451 lab and need to complete laboratory experiments (See the lab syllabus for details).

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), and Photo ID Card. Students are NOT allowed to have access to digital pagers or cell phones during any exam. Using or having any other items that are not allowed for an exam in this course is considered as cheating, and your action will be processed as written in the "**Academic Integrity**" section of this syllabus.

Participation: I will be using the i>clicker student response system in class this term. i>clicker 2 helps me to understand what you know and gives everyone a chance to participate in class. Participation with i>clicker 2 will account for 10% of your course grade. **You must purchase the model “i>clicker 2”.** It is sold at the UT Arlington Bookstore. No cell phone options or other clicker models will be allowed in this course.

Participation Clicker Registration Policy

To receive credit for the responses you submit with i>clicker, you must register correctly in the Blackboard course shell by the deadline, **Tuesday, January 23, 2018.** Late registration will not excuse you for the due date. Students will not receive participation credit after the deadline if they do not register the device correctly. Keep in mind that an i>clicker device can be registered only for one student per semester. One device cannot be registered for more than one student. One student can register only one i>clicker device for this course. Registering multiple devices will result in a zero score.

How to register your i>clicker 2

- 1) Log into Blackboard (<https://elearn.uta.edu>) and select the course.
- 2) Click on the “i>clicker 2 Registration” link (see the picture below) under “Before You Start”.



[i>clicker 2 Registration](#)

- 3) Enter your i>clicker remote ID (printed on the back of your device) and click “**Submit**”.
- 4) Your clicker is all set to be used in the course. Remember that your device can be registered only for yourself. If you share a clicker that you register, then you will not receive any participation credit for this course.

How can I verify whether my i>clicker registration is completed correctly?

Shortly after each class, a participation grade is posted in your Blackboard account. If your score is zero yet you used your clicker in class, then that means that you have not registered your device or that your device was registered incorrectly. You need to contact me immediately and correct your registration immediately. Otherwise, you will keep receiving a zero score until you register the device correctly.

I just realize that I was not getting my participation grade. I attended classes. So should I receive the participation grade?

It is your responsibility to check your participation grade after each class. The participation grade is posted shortly after each class. If your score is missing or incorrect, you must contact me by the next day (at the latest). All participation grade is final unless you contact me right away.

Cheating

I consider bringing and using a fellow student’s i>clicker to class to be cheating and a violation of the University Honor Code. If you are caught with a clicker other than your own or have votes in a class that you did not attend, you will forfeit all clicker points and may face additional disciplinary action.

Participation Grade Calculation Policy

If you forget the clicker or if the battery runs out, you will receive a zero for that day. I will collect participation scores from **January 24, 2018 to May 4, 2018.** In a class period, each question is worth one point. By answering a question, you will automatically receive 0.9. Then, if your answer is correct, you will receive 0.1. Also, if you submit your answers to all questions during a class period, you will receive one point. Otherwise, you will receive a zero, and no partial credit will be given. Each participation score per session is calculated as the “percentage” by dividing the sum of points you earned by the maximum possible point score. Scores (in percentage) of all sessions will be treated equally. The following examples describe how a participation score is calculated per session.

Example 1) Suppose there are two clicker questions and you get both right.

Performance score	Question #1: 0.9 + 0.1 = 1.0
	Question #2: 0.9 + 0.1 = 1.0
Participation score	You were present and submitted the answers for both. So you get 1.0.
Total score	3.0 / 3.0 = 100%

Example 2) Suppose there are two clicker questions and you get both wrong.

Performance score	Question #1: 0.9 + 0.0 = 0.9
	Question #2: 0.9 + 0.0 = 0.9
Participation score	You were present and submitted the answers for both. So you get 1.0.
Total score	2.8 / 3.0 (93%)

Example 3) Suppose there are two clicker questions and you only answer one question (correctly) because you arrived late.

Performance score Question #1: $0 + 0 = 0$

 Question #2: $0.9 + 0.1 = 1.0$

Participation score You were not present and did not submit the answers for both. So you get 0.

Total score $1.0 / 3.0 = 33\%$

The **six** lowest scores will be dropped to compensate for unforeseen situations (for example, missing a class due to illness, missing a score due to a technological issue you experience with the device, not bringing a clicker, etc.). After the **six** lowest scores are dropped, the final participation grade is calculated as the average of all participation scores (in percentage).

Homework: Make sure to understand the information about the online homework system given below. If it is not clear, contact me with your questions. Please do not assume anything on the grading policy. **The two lowest scores** will be dropped at the end of the semester. **This policy covers unforeseen events such as illness, technical computer malfunctions, family emergency, inclement weather, etc.** So, for example, if you missed an assignment during the semester, then the zero credit of your missed assignment will be dropped. Any zero resulting from Academic Dishonesty is not eligible to be the lowest grade dropped. No extension to the due date will be given. All due dates for homework assignments are directly available in Blackboard. You will be responsible for checking them and completing them by the due dates.

Homework Registration Instruction

Once you login to the Blackboard course shell (<https://elearn.uta.edu>), follow the step-by-step instructions below.

Step 1. Click on "Unit 01" in the course menu on the left side of the screen.

Step 2. Find the assignment "Homework Unit 01 Chapter 1-1". Click on the assignment name.

Step 3. You will be prompted with the page "Launch McGraw-Hill Link". Click on "Launch" and follow the instructions to register. Once you register, you won't have to sign in to Connect again. Access all the assignment through the Blackboard course shell. **Technical Support:** Call 1-800-331-5094.

First Thing That You Must Do After Registration

After completing the registration, before you work on any assignments, find the link "Troubleshoot" at the bottom of the web page. Click on the link.

Click on "Troubleshooting"



The link will determine if your computer is fully compatible with the homework system. Make sure it is. If not, then contact technical support at 1-800-331-5094.

Homework Grading Policy (See the figure below)

A. DO NOT click on the "Submit" button until you are ready to turn in an assignment. If you submit an assignment, then you must start the entire assignment again with new questions. So be careful. To save your work, use the "Save & Exit" button.

Remember if you leave an assignment without using the "Save & Exit" button and close a session, then all of your work will be lost.

B. For most problems in the assignment, you can have multiple attempts. Each problem shows the number of attempts that you are allowed. You can click on "Hint" without any penalty between attempts. If you exhaust all attempts or give up on a question, then click on "Solution" to find out how to solve the question.

C. You can click on the "Check My Work" button to check your answer. If there are multiple parts in a question, the button applies to all parts whether or not they are answered. In other words, you cannot check each part of multiple parts in a question at a time.

D. If you need a help on the question, then click on "Solution" or "Guided Solution" and find out the solution. Then, the "Try another" button will appear.



Click on "Try another" and complete the question. As long as you answer a new question, you will receive a full credit.

“How many times can I use “Try another” option?”

You can use “Try another” option ten times for most of questions. Since most of questions allow five attempts, you can try 50 times (= 5 attempts × 10 questions) for each question.

“Where can I get the help for a homework question?”

The online homework system in this course is a self-guided system and comes with solutions and guided solutions to most of questions. If you exhaust all attempts, then read the solution to the question by clicking on “**Solution**” or “**Guided Solution**”. Then try another question. As long as you are willing to try, you should be able to receive credits for all questions because there will be no penalty for trying another question. Your Coach will not be able to answer a question related to homework questions.

“I submitted the assignment but I didn’t mean to do so. Can you reset my assignment so that I could submit again?”

When you click on the “Submit” button, you will be prompted to confirm your action. If you didn’t mean to submit, then simply select “Cancel”, and the submission is cancelled. If you accidentally confirm your action, then you must start the entire assignment again.

“I need an extension to the due date because....”

Don’t wait until the last minute to do homework because if you experience a personal emergency or internet network problems, or if your computer crashes, it could cause you to miss the deadline. Extensions to due dates will not be allowed when you could not complete your homework because you waited until the last minute. Personal emergencies on the due date do not excuse you from completing assignments. Homework due dates are final and I do not allow extensions for completing homework past the due date in order to be fair to students who complete the assignment on time. However, **the two lowest scores** will be dropped at the end of the semester. **This policy covers unforeseen events such as illness, technical computer malfunctions, family emergency, inclement weather, etc.**

“I submitted the homework assignment, but I don’t see the score in my gradebook. Why?”

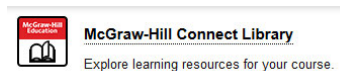
Blackboard and the online homework system do not communicate the information instantaneously. After the due date, I will synchronize two web sites so that all grades are transferred correctly. Make sure to click on “**view your assignment performance report**” (See the picture below) in the online homework system and verify that you have the score. As long as you have the correct score shown in the online homework system, your grade should be transferred after the due date.

[view your assignment performance report](#)

[return to Blackboard](#)

How to Access the E-Textbook

Before you read the E-textbook, you must purchase access to the online homework system. After you register to the online homework system, when you click on the “**E-Textbook**” link on the left-hand side of the screen in the Blackboard, you will see “**McGraw-Hill Connect Library**” link. Click on the link and follow the instructions. You should see the textbook in PDF format under “**Course files**”.



Other Course Policies

Cell Phones and Pagers (or any un-necessary 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>.

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 CHEM 1451. Hours of the Chemistry Clinic will be announced on the front door of Room 318 SH. (Note: The Chemistry Clinic will be closed during the Labor Day and Thanksgiving holidays, as well as any day that the University is closed due to inclement weather.)

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.

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://www.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., Fall through Summer II) 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.

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 **in front and back**. 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. Non-emergency number 817-272-3381.

This course satisfies the University of Texas at Arlington core curriculum requirement in life and physical sciences. The italicized student learning outcomes required of core courses below will be assessed for each student in the laboratory portion of the course. The lab report will be assessed to determine how a student has mastered critical thinking, communication, and empirical and quantitative skills. A teamwork assessment (peer evaluation) will be completed by each student in lab to determine how students work together in lab groups to achieve the student learning outcomes described below.

Student Learning Outcomes:

- Upon completing the course, the student should be able to understand major concepts in general, organic and biochemistry. (More detailed learning objectives are given in separate handout available in Blackboard course sites.) (**General Chemistry**) To understand scientific measurement, atomic theory and structure, chemical bonding, quantitative relationship in chemical reactions, and acid-base chemistry. (**Organic Chemistry**) To understand nomenclature, chemical reactions and properties of organic compounds. (**Biochemistry**) To understand molecular structures, chemical reactions and properties of carbohydrates, lipids, and proteins. If time permits, chemistry of nucleic acids will be included.
- The student collects data for the change in the mass during a chemical reaction. They calculate the theoretical yield and percent yield for different combinations in amounts of reactants. They discuss the concept of equivalent amount, limiting reagent, and excess reagent for each run of reactions. (*Empirical and Quantitative Skills*)
- The student learns the scientific process by designing and conducting experiments, collecting and analyzing data, and presenting results, in both written formats (*Critical thinking, Communication*)
- The student learns essential laboratory procedures and protocols (*Teamwork*)
- *Critical Thinking Skills:* to include creative thinking, innovation, inquiry, and analysis, evaluation and synthesis of information;
- *Communication Skills:* to include effective development, interpretation and expression of ideas through written, oral and visual communication
- *Empirical and Quantitative Skills:* to include the manipulation and analysis of numerical data or observable facts resulting in informed conclusions
- *Teamwork:* to include the ability to consider different points of view and to work effectively with others to support a shared purpose or goal

The Signature Assignment for satisfying the Core Curriculum Requirement in CHEM 1451 will be UTA Experiment 5: Chemical Reaction.