Chemistry 1300 Introductory Chemical Principles
Section 001 Date, Time and Room

Instructors:
Dr. Seiichiro Tanizaki
Office Hours are Monday, Wednesday, and Friday from 10:00 AM to 10:50 AM or by appointment.
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Course Description: This course provides a background in fundamental chemical mathematics, in writing and understanding chemical formulas and equations, and in the application of scientific laws to the behavior of matter. This course is designed for the student with little or no previous chemical training who intends to take the CHEM 1441/1442 sequence at a later date.

Required Materials:
2) Access to the online homework system: MasteringChemistry (www.masteringchemistry.com). You can purchase the access directly online at their website. Read the instructions for Online Homework Registration and Log in in the UTA Blackboard course site (https://elearn.uta.edu).
3) A scientific calculator (non-programmable and non-graphing: For example, Texas Instruments TI-30Xa. This calculator has all the functions you need and relatively in-expensive.)

Course Prerequisites: This course is designed for the student with little or no previous chemistry training who intends to take CHEM 1441/1442. All students should have completed MATH 1302 or its equivalent. CHEM 1300 cannot replace CHEM 1441/1442/1451/1465 for major credit toward a degree in chemistry.

Student Learning Outcomes: (More detailed learning objectives are given in separate handout available in Blackboard course sites.) Upon completing the course, the student should
1) understand fundamental chemical concepts, including atomic and molecular structure, chemical bonding, some chemical reactions, the relationship of the electronic structure of elements to the periodic table, and periodic physical and chemical properties of elements and compounds;
2) perform quantitative calculations related to chemical stoichiometry, the behavior of gases, and enthalpy changes; and
3) be prepared to enter Chemistry 1441.

Attendance Policy: Attend every lecture. A very strong correlation exists between attendance and success in Chemistry 1300. 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. You must sign on the attendance sheet in class if you attend a class. FALSIFYING YOUR ATTENDANCE, THAT INCLUDES LEAVING A CLASS BEFORE CLASS ENDS, IS CONSIDERED ACADEMIC DISHONESTY AND PROSECTUED AS SUCH.

Expectations for Out-of-Class Study: 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. Since you have 3 hours of lecture per week, this means that at a minimum you should plan to study Chemistry 9 hours each week independently.

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

- Online Homework: 20%
- 6 Mid-term Exams: 60%
- Comprehensive Final Exam: 20% Monday, May 06, 11:00 AM – 1:30 PM

1) **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 – 6 if it is to the student’s benefit. For example, if you miss one of mid-term exams (Exam 1 through Exam 6), then the score of the missed exam will be replaced by the final exam score. Final exam score will not be replaced.

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

3) 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 89.56, then your final grade is less than 90. Grades will be assigned according to the following scale.

<table>
<thead>
<tr>
<th>Total Numerical Grade</th>
<th>Letter Grade</th>
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<tbody>
<tr>
<td>90 and above</td>
<td>A</td>
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<tr>
<td>80-less than 90</td>
<td>B</td>
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<td>70-less than 80</td>
<td>C</td>
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<td>60-less than 70</td>
<td>D</td>
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<tr>
<td>Below 60</td>
<td>F</td>
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Major Assignments and Examinations
Seven exams will be given. These exams will cover the reading, lecture material, homework, and assigned problems. Six mid-term exams (Exam 1 through Exam 6) will be administered in class period. The final exam will be comprehensive and will be given in two and a half hours. Web-based homework problems will be assigned and graded. More information (Registration, Login and Grading Policy) about the online homework system will be given in the Blackboard course site. None of homework assignments will be dropped. All due dates for homework assignments are directly available on the online homework site. You will be 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).
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 digital pagers or cell phones during any exam.

Other Course Policies:

Cell Phones and Pagers (or any un-necessary electronic gadgets)
Silence all cell phones and pagers prior to class. No laptop or un-necessary electronic gadgets are permitted in classroom.

Blackboard
Students are regularly responsible for checking the blackboard course website ([https://elearn.uta.edu/](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.

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](http://www.uta.edu/oit/cs/email/mavmail.php).
**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/ses/fao](http://wweb.uta.edu/ses/fao)).

**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](http://www.uta.edu/disability) or by calling the Office for Students with Disabilities at (817) 272-3364.

**Academic Integrity**

All students enrolled in this course 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.*

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 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.

**Student Feedback Survey:** At the end of each term, students enrolled in classes categorized as lecture, seminar, or laboratory shall be directed to complete a 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 enters the SFS database anonymously and is aggregated with that of other students enrolled in the course. UT Arlington’s effort to solicit, gather, tabulate, and publish student feedback is required by state law; students are strongly urged to participate. For more information, visit [http://www.uta.edu/sfs](http://www.uta.edu/sfs).

**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.

**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 contact the Maverick Resource Hotline by calling 817-272-6107, sending a message to resources@uta.edu, or visiting [www.uta.edu/resources](http://www.uta.edu/resources).
Resources:
1) The Chemistry Clinic is located in Room 318 Science Hall and will be staffed with tutors available to answer your questions related to lecture and homework. Hours of the Chemistry Clinic will be announced on the front door of Room 318 SH. This service is free for students enrolled in Chemistry 1300.
2) University College is located in 205 Ransom Hall and offers free academic support for qualifying students and low-cost services for all students, including Cost Share Tutoring.

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.

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 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. Note that the Final Exam is scheduled for Monday, May 6 from 11:00 AM to 1:30 PM. Make sure to save this date because no make-up final exam will be given.

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<tr>
<th>Date</th>
<th>Lecture Material (Reading Assignments)</th>
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<tr>
<td>January</td>
<td>14, 16, 18 Course Orientation; Begin Lecture 1</td>
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<tr>
<td>Jan/Feb</td>
<td>21, 23, 25 Lecture 1: Math for Chemistry</td>
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<td>February</td>
<td>28, 30, 1 Finish Lecture 1, Exam 1 on Lecture 1, Begin Lecture 2</td>
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<td>4, 6, 8 Lecture 2: Dimensional Analysis</td>
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<td>11, 13, 15 Finish Lecture 2, Exam 2 on Lecture 2, Begin Lecture 3</td>
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<td>18, 20, 22 Lecture 3: Atoms, Molecules, Ions, and Ionic Compounds</td>
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<td>Feb/Mar</td>
<td>25, 27, 1 Finish Lecture 3, Exam 3 on Lecture 3, Begin Lecture 4</td>
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<td>March</td>
<td>4, 6, 8 Lecture 4: Mole and Molar Mass</td>
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<td>11, 13, 15 Spring Vacation: Classes do not meet.</td>
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<td>18, 20, 22 Finish Lecture 4, Exam 4 on Lecture 4, Begin Lecture 5</td>
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<td>25, 27, 29 Lecture 5: Chemical Reaction &amp; Stoichiometry Problems</td>
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<td>April</td>
<td>1, 3, 5 Finish Lecture 5, Exam 5 on Lecture 5, Begin Lecture 6</td>
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<td>8, 10, 12 Lecture 6: Aqueous Solution Chemistry</td>
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<td>15, 17, 19 Finish Lecture 6, Exam 6 on Lecture 6, Begin Lecture 7</td>
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<td>Apr/May</td>
<td>22, 24, 26 Lecture 7: Atomic Structure and Lewis Structure</td>
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<td>May</td>
<td>29, 1, 3 Finish Lecture 7</td>
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<td>6 Comprehensive Final Examination</td>
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Important Dates
January 21 Martin Luther King Jr. Day holiday: Classes do not meet.
January 30 Census Date.
March 11 – 15 Spring Vacation: Classes do not meet.
March 29 Last Day to Drop Classes: Please review UTA’s Drop Policy in Undergraduate Catalog.
May 03 Last Day of Classes.
May 06 Final Exam.
The Core Objectives and the Component Areas:
This course satisfies the UTA core curriculum requirement in Life and Physical Sciences.
1) Critical Thinking Skills: To include creative thinking, innovation, inquiry, and analysis, evaluation and synthesis of information.
2) Communication Skills: To include effective development, interpretation and expression of ideas through written, oral and visual communication.
3) Empirical and Quantitative Skills: To include the manipulation and analysis of numerical data or observable facts resulting in informed conclusions.
4) 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 in CHEM 1300 will be a written report for questions about the properties of one element you choose from the periodic table. The completion of the assignment will credit the extra points of 5% toward the final grade. This assignment satisfies the four Core Curriculum Objectives in the following ways:
1) Critical Thinking Skills: You must conduct research to gather data, calculate the atomic mass by using their data, and then critically explain and justify their findings and numerical answers.
2) Communication Skills: You will submit a written lab report for this assignment.
3) Teamwork: You will work in conjunction with a partner for this assignment.
4) Empirical and Quantitative Skills: You will find data for the mass and the natural abundance of an element they choose. They will calculate the atomic mass by using the data.