Course	CHEM 1311.0u1: General Chemistry I
Professor	Dr. Yu(Tony) Huang
Term	Summer 2025
Time	MWF 2:30 pm – 3:45 pm
Location	GR 4.428

Professor's Contact Information

Office Location	SLC 3.403
Email Address	yu.huang@utdallas.edu
Other Information	Best way to contact me: email listed above. I don't read eLearning email
TA information	Aidely Aranda aidely.aranda@utdallas.edu Mai Vu mai.vu@utdallas.edu
Office Hours	Office hours will be held in Chemistry Clinic Dr. Huang by appointment and preferably through MS Teams Aidely Aranda Wednesdays 12 pm -2 pm at BE 3.304 Mai Vu Friday 10 am -12 pm at BE 2.410

General Course Information

Pre-requisites, Co-requisites, & other restrictions	One year of high school chemistry is assumed.
Course Description	Introduction to elementary concepts of chemistry theory. The course emphasizes molecular structure and bonding, chemical reactions, and the mole concept and its applications.
Learning Outcomes	*Objectives* This course is the first of a two-course sequence. The goal is to provide students with a working knowledge of the basic concepts of general chemistry needed for creative problem solving, as well as a background for advanced chemistry and related science courses, and for laboratory applications. The course focuses on the following: the architecture of the atom; molecular structure and bonding; chemical reactions; thermochemistry; the mole concept and its applications; and the properties of solids, liquids and gases. Basic problem-solving skills and critical thinking are also emphasized. *Expected Learning Outcomes* Upon successful completion of this course, students will therefore:

	1) be able to use basic concepts in quantum theory and chemical bonding theory by predicting both the chemical properties (e.g. periodic trends, reactivities) and the electronic and 3-dimensional structures of representative compounds 2) be able to interpret experimental data (in both tabular and graphical form) by appropriately setting up and solving scientific problems using dimensional analysis with proper attention to scientific units and significant figures 3) be able to demonstrate an understanding of the role of energy in physical changes and chemical reactions by predicting the direction and magnitude of energy changes and by performing thermochemical calculations 4) be able to demonstrate an understanding of the properties of gases by applying the gas laws and kinetic molecular theory to processes involving gases
Required Texts & Materials	1. **Textbook:** *Chemistry: Atoms First, 5th Edition* (Julia Burdge, Jason Overby); McGraw-Hill (ebook is integrated with ALEKS 360, see point 3) 2. Course materials located on class site at **eLearning:** http://elearning.utdallas.edu/ 3. **ALEKS** online assignment system: www.aleks.com. You can directly purchase **ALEKS360** and this has an ebook (*Chemistry: Atoms First, 5th Edition* (Julia Burdge, Jason Overby); McGraw-Hill) built into the program. 4. You may use any scientific or graphing **calculators** for problem solving (as long as it does not connect to the internet). 5. Access to eLearning during class for conducting In Class Assignments (ICAs) and exams.
Additional Reference Material	https://openstax.org/details/books/chemistry-atoms-first https://chem.libretexts.org/ Note that while all content covered in CHEM 1311 and CHEM 1312 are covered in these online books, the chapter arrangement is different.
Course Access and Navigation	This course can be accessed using your UT Dallas NetID account on the eLearning website. Please see the course access and navigation section of the Getting Started with eLearning webpage for more information. To become familiar with the eLearning tool, please see the Student eLearning Tutorials webpage. UT Dallas provides eLearning technical support 24 hours a day, 7 days a week. The eLearning Support Center includes a toll-free telephone number for immediate assistance (1-866-588-3192), email request service, and an online chat service.
Communication	This course utilizes online tools for interaction and communication. Some external communication tools such as regular email and a web conferencing tool may also be used during the semester. For more details, please visit the Student eLearning Tutorials webpage for video demonstrations on eLearning tools. Student emails and discussion board messages will be answered within 3 working days under normal circumstances.
Technical Difficulties	The University is committed to providing a reliable learning management system to all users. However, in the event of any unexpected server outage or any unusual technical difficulty which prevents students from completing a time sensitive assessment activity, the instructor will provide appropriate accommodation based on the situation. Students should immediately report any problems to the instructor and also contact the online

	eLearning Help Desk. The instructor and the eLearning Help Desk will work with the students to resolve any issues at the earliest possible time.
Student Resources	Online students have access to resources including the McDermott Library, Academic Advising, The Office of Student AccessAbility, and many others. Please see the eLearning Current Students webpage for more information. The information contained in the following link lists the University's academic support resources for all students. Please go to Academic Support Resources webpage for these policies. Peer tutoring is offered to currently enrolled students for many of the historically challenging subjects including General chemistry 1. The virtual sessions are designed to meet students' individual questions and needs; however, the tutors do not provide answers for homework or exams. Please visit the webpage for additional information about scheduling your sessions. https://studentsuccess.utdallas.edu/programs/peer-tutoring/
Classroom Materials	The instructor will provide class materials that will be made available to all students registered for this class as they are intended to supplement the classroom experience. These materials may be downloaded during the course; however, these materials are for registered students' use only. Classroom materials may not be reproduced or shared with those not in class or uploaded to other online environments except to implement an approved Office of Student AccessAbility accommodation. Failure to comply with these University requirements is a violation of the Student Code of Conduct.
Class Recordings	Any recordings made will be available to all students registered for this class as they are intended to supplement the classroom experience. Students are expected to follow appropriate University policies and maintain the security of passwords used to access recorded lectures. Unless the Office of Student AccessAbility has approved the student to record the instruction, students are expressly prohibited from recording any part of this course. Recordings may not be published, reproduced, or shared with those not in the class, or uploaded to other online environments except to implement an approved Office of Student AccessAbility accommodation. If the instructor or a UTD school/department/office plans any other uses for the recordings, consent of the students identifiable in the recordings is required prior to such use unless an exception is allowed by law. Failure to comply with these University requirements is a violation of the Student Code of Conduct.
Server Unavailability or Other Technical Difficulties	The University is committed to providing a reliable learning management system to all users. However, in the event of any unexpected server outage or any unusual technical difficulty which prevents students from completing a time sensitive assessment activity, the instructor will provide appropriate accommodation based on the situation. Students should immediately report any problems to the instructor and also contact the online eLearning Help Desk. The instructor and the eLearning Help Desk will work with the students to resolve any issues at the earliest possible time.

Schedule & Academic Calendar

Class Period	Day	Date	Topic	Chapter
1	Monday	6/2/2025	**Course Introduction**	
2	Wednesday	6/4/2025	**Atoms and the Periodic Table**	2
3	Friday	6/6/2025		
4	Monday	6/9/2025	**Quantum Theory and Electronic Structure of Atoms**	3
5	Wednesday	6/11/2025		
6	Friday	6/13/2025		
7	Monday	6/16/2025		
8	Wednesday	6/18/2025	**Periodic Trends of the Elements**	4
9	Friday	6/20/2025		
10	Monday	6/23/2025		
Exam 1			**6/24-6/25**	
11	Wednesday	6/25/2025	**Ionic and Covalent Compounds**	5
12	Friday	6/27/2025		
13	Monday	6/30/2025		
14	Wednesday	7/2/2025	**Representing Molecules**	6
15	Monday	7/7/2025		
16	Wednesday	7/9/2025		
17	Friday	7/11/2025	**Molecular Geometry, IM Forces & Bonding Theory**	7
18	Monday	7/14/2025		
19	Wednesday	7/16/2025		
20	Friday	7/18/2025		
Exam 2			**7/21-7/22**	
21	Monday	7/21/2025	**Chemical Reactions**	8
22	Wednesday	7/23/2025		
23	Friday	7/25/2025		
24	Monday	7/28/2025	**Chemical Reactions in Aqueous Solutions**	9
25	Wednesday	7/30/2025		
26	Friday	8/1/2025		
27	Monday	8/4/2025	**Energy Changes in Chemical Reactions**	10
28	Wednesday	8/6/2025		
29	Friday	8/8/2025		
30	Monday	8/11/2025		
Exam 3			**8/12-8/13**	

Exam Schedule: **Exam 1: 6/24-6/25 between 8:30 am and 3:30 pm**
Exam 2: 7/21-7/22 between 8:30 am and 5:30 pm
Exam 3: 8/12-8/13 between 8:30 am and 5:30 pm

Course Policies

Grading (credit) Criteria

Course Evaluation:

(i) In-class Assignments	10%
(ii) Quizzes	10%
(iii) ALEKS Assignments	20%
(iv) Midterm Exams (3 x 20%)	60%

Only Raw scores will be posted on eLearning. The raw scores will be collected at the end of the semester and weighed according to the above scale to determine the final letter grade.

Our goal in this class is to help you develop an understanding (and appreciation) of how chemistry impacts your everyday lives. Our main focus will be on CONCEPTS and not just FACTS, and our teaching and testing will reflect this. We have designed this course to empower you to succeed in learning chemical concepts. We have a number of "resources" that we are putting at your disposal to enable you to succeed. While students will differ in the type of resources they prefer to utilize, in our experience we have identified a subset that is critical. Thus, for those, we give credit in the class to strongly encourage students to use them. Resources are described below and in the following sections:

0. Homework assignments (end of chapter problems):

- a principle method for assessing whether you understand a concept and how to use it
- **The *MOST* critical resources for preparing for exams**
- assigned for each chapter from end-of-chapter exercises in your textbook
- large number of problems selected to cover the majority of important concepts
- mixture of conceptual and quantitative problems
- these will not be collected or graded
- all homework assignments are posted on eLearning

1. In-Class Assignments (ICAs):

- ICAs are designed as 1-2 questions assignments to conduct a quick check on your understanding of the lecture materials.
- ICAs will be worth 10% of your course grade.
- ICAs will be posted and conducted on eLearning.
- ICAs will only be open 24 hours after release.
- **There will be no makeup ICAs given.**
- 3 of the lowest grade ICAs will be dropped.

2. Quizzes:

- Quizzes will be given before the midterm exams to help with exam preparations.
- Quizzes will be worth 10% of your course grade.
- Quizzes will be posted and conducted on eLearning.
- Three attempts will be allowed for each quiz, and the highest grade will be taken.
- **There will be no makeup given.**
- 1 of the lowest grade quizzes will be dropped.

3. ALEKS:

- web-based individualized learning and assessment system
- helps a student gauge their fundamental knowledge and identify what they don't understand

	• each student will get a unique set of questions tailored by the system to suit the student's preparation and understanding of the material • details for ALEKS provided in separate documents • useful to prepare for doing the homework—***doing ALEKS WITHOUT doing the homework is NOT sufficient for Exam preparation*** Course Code for ALEKS: **KF9P3-KPE9J** Financial Aid Access Code (valid for 2 weeks): **46C65-C9A7C-419A6-53FF0** • ALEKS will constitute 20% of your course grade. -- HOMEWORK: average (best 8 of 9) **4. Midterm exams** • Each exam is 90-minute long and will be available at Testing Center during designated days (refer to exam schedule in page 3). **All the exams must be registered through Testing Center at least 48 hours prior to the exam time! Exams can't be taken without registration (walk-in exams are NOT allowed).** **You can register the exams through this link: https://ets.utdallas.edu/testing-center/students/** You are encouraged to register all 3 exams as early as possible. • ALL 3 MIDTERM EXAMS MUST BE TAKEN, in the scheduled time and date. • ***There will be no makeup exams given*** • Questions will focus on concepts and material covered in class, homework, in-class assignments, quizzes, and ALEKS. • If you have an ***acceptable reason*** for missing an exam (examples include documented illness, participation in UTD-sponsored event, observance of religious holiday), your missed exam grade will be replaced by the average grade of ICAs and quizzes, ***if you speak to your instructor to get approval.*** • If you are able to receive **100% on 8 ALEKS modules**, then the lowest of the 3 exam scores will be automatically replaced by **the average grade of the ICAs (10% of course grade) and quizzes (10% of course grade)**. • To clarify: this replacement can be used ONCE to replace ONE exam score—either your lowest of 3 completed midterm exams, or to serve in place of an approved missed midterm exam.
Grading Scale	• Letter grades will be determined for the Midterm Grade and Final Semester Grade Only • Scores will be rounded when determining letter grades (e.g., 89.4 will round to 89; 89.5 will round to 90) Grade Breaks: A+ 97 and above A 92(inclusive) to 97 A- 89(inclusive) to 92 B+ 86(inclusive) to 89 B 82(inclusive) to 86 B- 78(inclusive) to 82 C+ 75(inclusive) to 78 C 71(inclusive) to 75 C- 65(inclusive) to 71 D+ 62(inclusive) to 65 D 58(inclusive) to 62 D- 55(inclusive) to 58 F Below 55

Make-up Exams	There are **no make-up exams** (see above).
Extra Credit	There is **no extra credit**. (Don't email me by the end of the semester for extra credits)
Class Attendance	Lectures will be conducted under in-person mode. I highly encourage you to attend them as we can have one-on-one discussions during this time. Any in-class assignment will be timed but given a 24-hour window for completion.
Re-grade Policy	**Requests to have 1 or more questions of an exam re-graded have to be made within 1 week of receiving the graded assignment.** The request should be in the form of an email from your UTD email account to the instructor; the subject line should read "exam X re-grade", where X is the assignment number; the body of the email should contain your full name, the problem number and an explanation of how the problem was graded incorrectly.
Other Assistance	Chemistry Tutors provided by Student Success Center -- hours will be set in near future and posted online at Success Center website http://www.utdallas.edu/studentsuccess/leader/tutors.html Chemistry Clinics at Berkner--schedule will be posted later.
Comet Creed	*This creed was voted on by the UT Dallas student body in 2014. It is a standard that Comets choose to live by and encourage others to do the same:* "As a Comet, I pledge honesty, integrity, and service in all that I do."
UT Dallas Syllabus Policies and Procedures	*The information contained in the following link constitutes the University's policies and procedures segment of the course syllabus.* *Please go to http://go.utdallas.edu/syllabus-policies for these policies.*

These descriptions and timelines contained in this syllabus are subject to change at the discretion of the Professor.