

Course Information

Course Number: CHEM 119
Course Title: Fundamentals of Chemistry I
Section: 494-497
Time: MWF 12:40 PM – 1:30 PM
Location: CHEM 255
Credit Hours: 4

Laboratory Times

Section 494: T 8:00 AM – 10:50 AM
Section 495: T 11:10 AM – 2:00 PM
Section 496: T 2:20 PM – 5:10 PM
Section 497: W 8:00 AM – 10:50 AM
Location: ILSQ E110

Instructor Details

Instructor: Professor James D. Batteas
Office: CHEM 254
Phone: 979-458-2965 (office); 979-458-2958 (Asst. Jennifer Belcik)
E-Mail: chem119maj@gmail.com
Office Hours: Thursday 11:00 AM – 12:15 PM, or by appointment

Lab Coordinator: Dr. Joanna Maria N. San Pedro (isanpedro14@tamu.edu) – see separate lab syllabus

Instructional Asst. (IA): E.J. Broker (ejbroker@tamu.edu)
Office Hours: Monday 11:30 AM – 12:30 PM and Thursday 3:00 PM – 4:00 PM (CHEM 214)

Class Web Materials: [Canvas](#)

PLTLs: Davis Beauvais, Matthew Ellithorpe, Matthew Fife, Leonardo Valle Gomez
PLTL Sessions: TBA

Course Description

Welcome to **Chemistry 119**! As the science that describes matter, chemistry is central to our understanding of many fields, from medicine, to energy, to the environment, and the development of novel materials that change and improve our lives. Rapid new developments in very diverse areas virtually guarantee that chemistry will become even more important in the years to come. As such, a fundamental knowledge of chemistry and its role in so many areas is a vital component of any science education. As chemistry majors, this course will be the foundation for all of your future courses.

Credits: 4 (3 lecture hours [3 credits]; 3 lab hours [1 credit])

Course Prerequisites

None.

Special Course Designation

Core Curriculum (CORE): The CHEM 119 lecture/laboratory course meets the state requirements for Core Curriculum in Life and Physical Science. Courses in this category focus on describing, explaining, and predicting natural phenomena using the scientific method. Courses involve the understanding of interactions among natural phenomena and the implications of scientific principles on the physical world and on human experiences.

Core objectives for the Life and Physical Sciences Foundational Component Area:

1. **Critical Thinking:** Includes creative thinking, innovation, inquiry, and analysis using evaluation and synthesis of information. Students will meet this core objective through free response questions on exams, problems presented during lecture, assignments completed in Canvas, and the analysis and evaluation of data from laboratory experiments.
2. **Communication:** Includes effective development, interpretation, and expression of ideas through written, oral, and visual communication. Students will meet this core objective through in-class pair discussions, the creation of succinct tables and graphs using experimental data, well-written result and conclusion summaries of laboratory experiments, and a short experimental demonstration and explanation of a chemistry concept/topic of the student's choice.
3. **Empirical and Quantitative Skills:** Includes the manipulation and analysis of numerical data or observable facts resulting in informed conclusions. Students will meet this core objective by applying theoretical and quantitative concepts presented in lecture to "real-world" problems as well as the interpretation of experimental data from laboratory experiments.
4. **Teamwork:** Includes the ability to consider different points of view and to work effectively with others to support a shared purpose or goal. Students will meet this core objective by working in pairs or small groups to solve problems in lecture as well as setup and execute laboratory experiments.

Course Learning Outcomes

Students successfully completing this course should be able to:

- use your knowledge of molecular structure and properties in describing and solving relevant, 'real-world' problems
- explain and appreciate the relationship between experiment and theory in science in general and the field of chemistry in particular
- demonstrate quantitative problem-solving skills in many aspects of chemistry, including stoichiometry and thermochemistry
- describe the modern theoretical basis for understanding important areas of chemistry, including atomic structure, chemical bonding, and molecular structure
- explain the relationships between chemical concepts learned in this course and those associated with other scientific disciplines

Textbook and/or Resource Materials

Required Text: Zumdahl/Zumdahl: *Chemistry: An Atoms First Approach*, 2nd Ed.

- **Option 1:** 1 term OWLv2 with eBook: 9781305863279
- **Option 2:** Multi-term OWLv2 with eBook: 9781305264571
- **Option 3:** Cengage Unlimited Subscription: 9780357700006

*Cengage Unlimited will cover multi-term access of Chemistry an Atoms First Approach as well as other courses using Cengage this term.

Grading Policy

There are a total of 1000 points distributed as noted below:

Quizzes	2.5 % (25 points)
ALEKS PRE	2.5 % (25 points)
Homework	10 % (100 points)
Hourly exams	45 % (450 points)
Final Exam	15 % (150 points)
Laboratory	25% (250 points)

Grade	Percentage*
A	90 – 100
B	80-89
C	70-79
D	60 – 69
F	< 60

*These grade cut-offs may be lowered, but they will not be raised.

Course Notes

Please plan to have an electronic or paper copy of the course notes with you in class. Course notes will be posted in Canvas.

Scientific Calculators

Scientific calculators will be used daily in class and on exams. Calculators may be either programmable or non-programmable. Calculators that are part of internet enabled devices will not be allowed during exam periods.

Clicker Quizzes (25 points)

There will be a clicker quiz approximately every class at the beginning of class. Your total available points will be scaled to 25 points.

iClicker Polling Subscription

Polling enhances the large class classroom experience by encouraging participation and allowing for instantaneous assessment. To participate in the quizzes you will need to enroll in the Chemistry 119 iClicker course. iClicker registration costs are being covered by the College of Arts and Sciences. To enroll in the Chemistry 119 iClicker course, you will need to go to iClicker.com and register as a student. Select Texas A&M University, and the College of Arts and Sciences, this will allow you to use iClicker for free. Once you have registered and downloaded the iClicker app on a wifi-enabled mobile computing device,

you will need to add your **nine-digit UIN** number to your student profile. Once you have done that, you should see the **CHEM 119 Majors Fall 2025** course listed amongst your courses.

The Reinforcement Module – ALEKS (25 points):

This module, which you were asked to complete over the summer, counts for 2.5% of the total grade: (Assessment and LEarning in Knowledge Spaces) ALEKS is a web-based, artificially intelligent assessment and learning system. If you haven't already finished the reinforcement module, **Do Not Delay**. The absolute final due date for completing the module is **September 5**.

Homework Assignments (100 points)

Homework will be assigned using the OWL homework system (Online Web Learning). Homework assignments are due approximately every 1-2 weeks at 11:59 PM on the due date. See the calendar for the due dates. Some assignments will contain more material than others. There are 7 assignments, and the percentage correctly completed and turned in on time will each be normalized to a percentage for each assignment against a total of 100 points toward your final grade. Instructions are listed below with a handy guide sheet as separate attachments.

You must register for OWLv2 in order to complete the homework for this course.

- **Student Registration Instructions:** <https://startstrong.cengage.com/owlv2-canvas-ia-no/>

*The registration link is also located within Canvas modules.

- **Cengage/OWL Support:** https://www.cengage.com/coursepages/Live_Office

Examinations (3 exams, 150 points each). A total of 3 in class examinations, each worth 150 points, will be given. Make-up examinations will be available for persons with an excused absence. See Makeup Work Policy on page 7. Make-up times are scheduled individually. All examinations will be multiple choice and/or free response.

Each student will have a different seating assignment for each exam. The seating assignments will be posted a day in advance outside the classroom. If you are left-handed or need table seating, please request special seating before the first exam (see me). Arrive at the exam on time. Bring two sharpened #2 pencils, your TAMU ID card, and the appropriate calculator. Calculators may not be shared during the exam. See me if you are uncertain about the capabilities of your calculator. Any student attempting to use an unacceptable calculator will receive a zero for that exam. All non-test materials must be placed under your desk. Follow the directions on the front of your test. Do not write on the back of the scantron sheet. Failure to follow these directions may result in a withheld or zero score. Multiple-choice answers must be recorded on the scantron sheet. During the exam, keep all work covered. Talking or looking around the room may result in a withheld grade for the exam. Work carefully, but pace yourself to finish within the time allotted. After finishing the exam, remain in your seat until asked to leave. Exams can only be turned in during the exam period. Exams turned in after the allotted time will not be accepted.

Final Examination (150 points). There will be a comprehensive final examination at the end of this course (Friday, December 12th from 10:30 AM – 12:30 PM). This exam will cover all course materials and is your opportunity to demonstrate mastery of the course materials.

Late Work Policy

Late work will only be accepted for full credit after the assignment due date with my permission.

Course Schedule

Week 1

Monday August 25th
Wednesday August 27th
Friday August 29th

Introduction/Overview, Chapter 1: Chemical Foundations
Chapter 1: Chemical Foundations
Chapter 1: Chemical Foundations

Week 2

Wednesday September 3rd
Friday September 5th

Chapter 2: Atomic Structure and Periodicity
Chapter 2: Atomic Structure and Periodicity

Week 3

Monday September 8th
Wednesday September 10th
Wednesday September 10th
Friday September 12th

Chapter 2: Atomic Structure and Periodicity
Chapter 2: Atomic Structure and Periodicity
11:59 p.m. OWL Assignment 1 Due – Ch 1 and 2
Chapter 3: Chemical Bonding

Week 4

Monday September 15th
Wednesday September 17th
Wednesday September 17th
Friday September 19th

Chapter 3: Chemical Bonding
Chapter 3: Chemical Bonding
11:59 p.m. OWL Assignment 2 Due – Ch 3
Examination 1

Week 5

Monday September 22nd
Wednesday September 24th
Friday September 26th

Chapter 4: Molecular Structure and Orbitals
Chapter 4: Molecular Structure and Orbitals
Chapter 4: Molecular Structure and Orbitals

Week 6

Monday September 29th
Wednesday October 1st
Friday October 3rd

Chapter 4: Molecular Structure and Orbitals
Chapter 4: Molecular Structure and Orbitals
Chapter 4: Molecular Structure and Orbitals

Week 7

Monday October 6th
Wednesday October 8th
Friday October 10th

Chapter 5: Stoichiometry
Chapter 5: Stoichiometry
Chapter 5: Stoichiometry

Week 8

Wednesday October 15th
Wednesday October 15th
Friday October 17th

Chapter 6: Types of Chemical Reactions
11:59 p.m. OWL Assignment 3 Due – Ch 4 and 5
Chapter 6: Types of Chemical Reactions

Week 9

Monday October 20th
Wednesday October 22nd
Wednesday October 22nd
Friday October 24th

Chapter 6: Types of Chemical Reactions
Chapter 6: Types of Chemical Reactions
11:59 p.m. OWL Assignment 4 Due – Ch 6
Examination 2

Week 10

Monday October 27 th	Chapter 7: Chemical Energy
Wednesday October 29 th	Chapter 7: Chemical Energy
Friday October 31 st	Chapter 7: Chemical Energy

Week 11

Monday November 3 rd	Chapter 7: Chemical Energy
Wednesday November 5 th	Chapter 7: Chemical Energy
Friday November 7 th	Chapter 7: Chemical Energy
Friday November 7th	11:59 p.m. OWL Assignment 5 Due – Ch 7

Week 12

Monday November 10 th	Chapter 8: Gases and their Properties
Wednesday November 12 th	Chapter 8: Gases and their Properties
Friday November 14 th	Chapter 8: Gases and their Properties

Week 13

Monday November 17 th	Chapter 8: Gases and their Properties
Wednesday November 19 th	Chapter 8: Gases and their Properties
Wednesday November 19th	11:59 p.m. OWL Assignment 6 Due Ch-8
Friday November 21st	Examination 3

Week 14

Monday November 24 th	Chapter 9: Liquids and Solids
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Week 15

Monday December 1 st	Chapter 9: Liquids and Solids
Wednesday December 3 rd	Chapter 9: Liquids and Solids
Friday December 5 th	Chapter 9: Liquids and Solids
Friday December 5th	11:59 p.m. OWL Assignment 7 Due Ch-9

Week 16

Monday December 8 th	Wrap-up
Friday December 12th	10:30 AM –12:30 PM Final Examination

Other Important Dates

August 25	Monday	First Day of Classes
August 29	Friday	Last day for adding/dropping courses for the fall semester
September 1	Monday	Labor Day, No Classes
October 13	Monday	Fall Break, No Classes, Mid-semester grades due
October 14	Tuesday	Fall Break, No Classes
November 18	Tuesday	Bonfire 1999 Remembrance Day
November 19	Wednesday	Last day for all students to drop courses with no penalty (Q-drop)
November 26	Wednesday	Reading Day, No Classes
November 27-28	Thurs./Fri.	Thanksgiving Holiday.
December 8	Monday	Last day of fall semester classes.
December 9	Tuesday	Reading day, no classes

December 10	Wednesday	Reading day, no classes
December 11-16		Fall semester final examinations for all students

Additional Help

Our class will be conducting Peer-Led Team Learning (PLTL) throughout the semester; peer-led groups will provide you with help as an integral part of this class. The Instructional Assistant Instructor (E.J. Broker) will manage PLTL efforts in our section and these will be organized as soon as possible. Our Peer Leaders are:

Davis Beauvais, Matthew Ellithorpe, Matthew Fife, Leonardo Gomez Valle

The goal of PLTL is to let you, the students, work together as groups as independently from your peer leader (PL) as possible, but PLs will be there to keep you on track and to help you work together. *The PL's role is not to be an expert in chemistry or to simply walk you through the HW problems, but to help you learn approaches to successfully study and learn chemistry.* PLTL sessions should be viewed by students as an essential part of the course, but we'll try to be flexible too, by offering these sessions across several times each week.

University Policies

Attendance Policy

The university views class attendance and participation as an individual student responsibility. Students are expected to attend class and to complete all assignments.

Please refer to [Student Rule 7](#) in its entirety for information about excused absences, including definitions, and related documentation and timelines.

Makeup Work Policy

Students will be excused from attending class on the day of a graded activity or when attendance contributes to a student's grade, for the reasons stated in Student Rule 7, or other reason deemed appropriate by the instructor.

Please refer to [Student Rule 7](#) in its entirety for information about makeup work, including definitions, and related documentation and timelines.

Absences related to Title IX of the Education Amendments of 1972 may necessitate a period of more than 30 days for make-up work, and the timeframe for make-up work should be agreed upon by the student and instructor" ([Student Rule 7, Section 7.4.1](#)).

"The instructor is under no obligation to provide an opportunity for the student to make up work missed because of an unexcused absence" ([Student Rule 7, Section 7.4.2](#)).

Students who request an excused absence are expected to uphold the Aggie Honor Code and Student Conduct Code. (See [Student Rule 24](#).)

Academic Integrity Statement and Policy

"An Aggie does not lie, cheat or steal, or tolerate those who do."

"Texas A&M University students are responsible for authenticating all work submitted to an instructor. If asked, students must be able to produce proof that the item submitted is indeed the work of that student. Students must keep appropriate records at all times. The inability to authenticate one's work, should the instructor request it, may be sufficient grounds to initiate an academic misconduct case" ([Section 20.1.2.3, Student Rule 20](#)).

Texas A&M at College Station

You can learn more about the Aggie Honor System Office Rules and Procedures, academic integrity, and your rights and responsibilities at aggiehonor.tamu.edu.

Notice of Nondiscrimination

Texas A&M University is committed to providing safe and non-discriminatory learning, living, and work environments for all members of the University community. The University provides equal opportunity to all employees, students, applicants for employment or admission, and the public regardless of race, color, sex (including pregnancy and related conditions), religion, national origin, age, disability, genetic information, or veteran status. Texas A&M University will promptly, thoroughly, and fairly investigate and resolve all complaints of discrimination, harassment (including sexual harassment), complicity and related retaliation based on a protected class in accordance with System Regulation 08.01.01, University Rule 08.01.01.M1, Standard Administrative Procedure (SAP) 08.01.01.M1.01, and applicable federal and state laws. In accordance with Title IX and its implementing regulations, Texas A&M does not discriminate on the basis of sex in any educational program or activity, including admissions and employment. The following person has been designated to handle inquiries and complaints regarding the non-discrimination policies: Jennifer M. Smith, TAMU Associate VP & Title IX Coordinator at YMCA Ste 108, College Station, TX 77843, 979-458-8407, or email civilrights@tamu.edu. For other reporting options, visit <https://ocrcas.ed.gov/contact-ocr> to locate the address and phone number of the office that serves your area, or call 1-800-421-3481.

Civil Rights, Free Speech, and Title IX Policies

Texas A&M University is committed to fostering a learning environment that is safe and productive for all. University policies and federal and state laws prohibit discrimination and harassment based on an individual's race, color, sex, (including pregnancy and related conditions), religion, national origin, age, disability, genetic information, veteran status, or any other legally protected characteristic. This includes forms of sex-based violence, such as sexual assault, sexual harassment, sexual exploitation, dating/domestic violence, and stalking.

Students can report discrimination/harassment, access supportive resources, or learn more about their options for resolving complaints on the [University's Civil Rights & Title IX webpage](#).

Students should be aware that all university employees (except medical or mental health providers) are mandatory reporters, which means that if they observe, experience or become aware of an incident that they reasonably believe to be discrimination/harassment alleged to have been committed by or against a person who was a student or employee at the time of the incident, the employee must report the incident to the university.

Americans with Disabilities Act (ADA) Policy

Texas A&M University is committed to providing equitable access to learning opportunities for all students. If you experience barriers to your education due to a disability or think you may have a disability, please contact the Disability Resources office on your campus (resources listed below). Disabilities may include, but are not limited to attentional, learning, mental health, sensory, physical, or chronic health conditions. All students are encouraged to discuss their disability related needs with Disability Resources and their instructors as soon as possible.

To request academic accommodations, contact the designated ADA office based on your location:

- Texas A&M University, College of Nursing, College of Dentistry, Irma Lerma Rangel College of Pharmacy College Station, College of Medicine, School of Public Health, Institute of Biosciences and Technology, EnMed Program, Bush School in Washington DC, Mays Business School – CityCentre, TAMU Engineering Academies, Texas A&M University Higher Education Center at McAllen and Texas A&M University at Galveston should contact [Disability Resources](#) at (979) 845-1637 or disability@tamu.edu.

If you are experiencing difficulties with your approved accommodations, contact the office responsible for approving your accommodations or the Texas A&M ADA Coordinator Julie Kuder at ADA.Coordinator@tamu.edu or (979) 458-8407.

Pregnancy Accommodations

Texas A&M provides reasonable accommodations to students due to pregnancy and/or related conditions, such as childbirth, recovery and lactation. Students should contact the University's [Pregnancy Coordinator](#) as soon as they become aware of the need for accommodation. Depending on the circumstances, accommodations could include extended time to complete assignments or exams, changes in course sequence, or modifications to the physical classroom environment. Texas A&M will also allow a voluntary leave of absence, ensure the availability of lactation space, and maintain grievance procedures to provide for the prompt and equitable resolution of complaints of sex discrimination. For information regarding pregnancy accommodations, email TIX.Pregnancy@tamu.edu.

Statement on Mental Health and Wellness

Texas A&M University recognizes that mental health and wellness are critical factors influencing a student's academic success and overall wellbeing. Students are encouraged to engage in healthy self-care practices by utilizing the resources and services available through [University Health Services](#) on its [mental health webpage](#). The [TELUS Health Student Support app](#) provides access to professional counseling in multiple languages anytime, anywhere by phone or chat, and the 988 Suicide & Crisis Lifeline offers 24-hour emergency support at 988 or 988lifeline.org.

Texas A&M College Station

Students needing a listening ear can contact University Health Services (979.458.4584). 24-hour emergency help is also available through the 988 Suicide & Crisis Lifeline (988) or at 988lifeline.org.

Statement on the Family Educational Rights and Privacy Act (FERPA)

FERPA is a federal law designed to protect the privacy of educational records by limiting access to these records, to establish the right of students to inspect and review their educational records and to provide

guidelines for the correction of inaccurate and misleading data through informal and formal hearings. Currently enrolled students wishing to withhold any or all directory information items may do so by going to howdy.tamu.edu and clicking on the "Directory Hold Information" link in the Student Records channel on the MyRecord tab. The complete [FERPA Notice to Students](#) and the student records policy is available on the Office of the Registrar webpage.

Items that can never be identified as public information are a student's social security number, citizenship, gender, grades, GPR or class schedule. All efforts will be made in this class to protect your privacy and to ensure confidential treatment of information associated with or generated by your participation in the class.

Use of Artificial Intelligence

According to the Texas A&M University Definitions of Academic Misconduct, plagiarism is the appropriation of another person's ideas, processes, results or words without giving appropriate credit (aggiehonor.tamu.edu). You should credit your use of anyone else's words, graphic images, or ideas using standard citation styles. Artificial Intelligence (AI) text generators and natural language processing tools (colloquially, chatbots - such as ChatGPT), audio, computer code, video, and image generators should not be used for any work for this class without explicit permission of the instructor and appropriate attribution. This includes, but is not limited to,

1. Creating or revising drafts
2. Editing your work
3. Reviewing a peer's work

This excludes pre-existing software additions such as spelling and grammar checkers, which are acceptable.

Laboratory

The laboratory component of Chem 119 is managed through a **separate Canvas course page** from the lecture. This page contains the complete lab syllabus, experiment schedule and deadlines, laboratory manuals, and all other required course materials. Announcements and important updates will be communicated by Dr. San Pedro through Canvas and email.

Students are expected to review all course materials and links on Canvas **prior to the first laboratory session during the week of September 1**. Printed copies of materials will not be distributed in class. Particular attention should be given to the **Lab Safety** section, including dress code and eye protection requirements. Approved safety goggles and appropriate attire must be worn at every laboratory session; students who do not comply will not be permitted to participate.

For questions regarding the laboratory component, please contact Dr. San Pedro at jsanpedro14@tamu.edu.