

South Plains College
Common Course Syllabus: CHEM1411
Fall 2025

Department: Science

Discipline: Chemistry

Course Number: CHEM1411

Course Title: General Chemistry I

Available Formats: Conventional (Fully Face-to-Face)

Campus: Dual Credit – Plainview Collegiate High School (Lab at SPC Extension Center in Plainview)

Instructor: Tracy Dawson; tracy.dawson@plainviewisd.org; Room: PCHS 103/SPC 117; 806-293-6005.

Course Description: Fundamental principles of chemistry for majors in the sciences, health sciences, and engineering; topics include measurements, fundamental properties of matter, states of matter, chemical reactions, chemical stoichiometry, periodicity of elemental properties, atomic structure, chemical bonding, molecular structure, solutions, properties of gases, and an introduction to thermodynamics and descriptive chemistry. Basic laboratory experiments supporting theoretical principles presented in CHEM 1411; introduction of the scientific method, experimental design, data collection and analysis, and preparation of laboratory reports.

Prerequisite: None

Credit: 4 Lecture: 3 Lab: 3

Textbook: No textbook required; SPC CHEM 1406 Laboratory Manual

Supplies: 3-ring binder, index cards, map colors, CHEM1406 lab manual (printed and online), scientific calculator (cell phones cannot be used as a calculator).

This course partially satisfies a Core Curriculum Requirement: Life and Physical Sciences Foundational Component Area (030)

Core Curriculum Objectives addressed:

- **Communications skills**—to include effective written, oral, and visual communication
- **Critical thinking skills**—to include creative thinking, innovation, inquiry, and analysis, evaluation, and synthesis of information
- **Empirical and quantitative competency skills**—to manipulate and analyze 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

Student Learning Outcomes:**From Lecture:**

1. Define the fundamental properties of matter.
2. Classify matter, compounds, and chemical reactions.
3. Determine the basic nuclear and electronic structure of atoms.
4. Identify trends in chemical and physical properties of the elements using the Periodic Table.
5. Describe the bonding in and the shape of simple molecules and ions.
6. Solve stoichiometric problems.
7. Write chemical formulas.
8. Write and balance equations.
9. Use the rules of nomenclature to name chemical compounds.
10. Define the types and characteristics of chemical reactions.
11. Use the gas laws and basics of the Kinetic Molecular Theory to solve gas problems.
12. Determine the role of energy in physical changes and chemical reactions.
13. Convert units of measure and demonstrate dimensional analysis skills

From Lab:

Upon successful completion of this course, students will:

1. Use basic apparatus and apply experimental methodologies used in the chemistry laboratory.
2. Demonstrate safe and proper handling of laboratory equipment and chemicals.
3. Conduct basic laboratory experiments with proper laboratory techniques.
4. Make careful and accurate experimental observations.
5. Relate physical observations and measurements to theoretical principles.
6. Interpret laboratory results and experimental data, and reach logical conclusions.
7. Record experimental work completely and accurately in laboratory notebooks and communicate experimental results clearly in written reports.
8. Design fundamental experiments involving principles of chemistry.
9. Identify appropriate sources of information for conducting laboratory experiments involving principles of chemistry.

Course Evaluation: Grading Scale: A – 90-100, B – 80-89, C – 70-79, D – 60-69, F – 0-59

Grading Categories: Lecture exams – 50%,

Labs – 12.5%

Quizzes – 12.5%

Final Exam – 20%

Homework - 5%

Students will be evaluated through weekly quizzes, homework, lecture exams and laboratory performance. Typically, weekly quizzes or exams will be given either on Fridays or Mondays and lab exercises are conducted on Wednesday of each week. Labs will be due the following Wednesday. Lab assignments will NOT be accepted late. If you are absent for a quiz, the makeup must be completed by 4:30 pm on the following Thursday (if the quiz was on Monday) and the following Tuesday (if the quiz was on Friday) as the feedback will be posted on Blackboard at that time. A zero will be given if the quiz is NOT taken by that time. There will be five forty-five-minute exams and a final exam. Each exam will cover approximately 1/5 of the class

material. Exams MUST be monitored by either me or a success coach. They cannot be taken at home if you are ill. They cannot be monitored on a school trip by a sponsor of the organization in which you are involved. **The lowest Exam grade will be dropped near the end of the semester. One of your lowest quiz AND lab grades will be dropped approximately at the end of each 6-week grading period for Skyward. All grades will be dropped before the last day to drop the course so you can decide whether you need to drop the course or not.** The final will be comprehensive, covering the entire semester's worth of material. There will be **no retake** opportunities for quizzes/exams. If you find that you cannot sit an exam for a valid reason (as decided by me) you must let me know as soon as possible **before the exam**. If you do not sit the exam without having first contacted me, you will score a zero for that exam with no opportunity for make-up. **No assignment may be completed after feedback has been posted on Blackboard. If AI is used on any assignment, plagiarism is discovered, or cheating is attempted a grade of a zero will be given; the second occurrence will result in the student being withdrawn from the course with no credit.** It is imperative that you keep up with the material throughout the semester. The only extra credit for this course is through completion of exam reviews which are due the day of exam for +5 extra credit on the exam. In addition, there will also be occasional extra credit on quizzes of +5 on for polyatomic ion formulas, etc.

Attendance Policy: Lecture and laboratory attendance is mandatory. If you miss 5 classes throughout the semester you may be dropped from the course. If you miss 3 consecutive classes for any reason you may be dropped from the course. Class participation is not a grade requirement. I encourage you to ask questions during class. You are expected to take notes and to be attentive to instruction.

Dropping a Course: Students may drop courses through Texan Connect, the Admissions and Records Office, or Advising and Testing Center through the late registration period. After late registration has closed, a student must complete the online [Student Initiated Drop Request](#) to drop a course.

Students may also drop courses in person at any campus location by completing a Student Initiated Drop Form. Complete a [Student Initiated Drop Form](#) and return the signed form to the Levelland Admissions and Records Office, the Student Support Center at the Lubbock Downtown Center, the Lubbock Career and Technical Center, or Plainview Center. You must have a picture ID to complete the drop.

A mark of "W" will be given for student-initiated drops that occur prior to and through the last day to drop as shown in the online Academic Calendar found here: <https://www.southplainscollege.edu/academiccalendar/index.php>.

Please discuss dropping the course first with the instructor and then visit with the PCHS counselor.

Syllabus Statements: For information about Artificial Intelligence, Disabilities, Non-Discrimination, Intellectual Exchange, Title IX Pregnancy Accommodations, CARE (Campus Assessment, Response, and Evaluation) Team, Campus Concealed Carry, and COVID-19, please use this link: <https://www.southplainscollege.edu/syllabusstatements/>.

Plagiarism and Cheating: Students are expected to do their own work on all projects, lab reports, quizzes, homework assignments, examinations, and papers. Failure to follow this policy may result in an F for the assignment and can result in an F or X for the course if circumstances warrant.

Plagiarism violations include, but are not limited to, the following:

1. Submitting work bought, borrowed, or downloaded from another student or an online term paper site.
2. Cutting and pasting together information from books, articles, other papers, or online sites without providing proper documentation;
3. Using direct quotations (three or more words) from a source without showing them to be direct quotations and citing them; or
4. Missing in-text citations.
5. Violating the Artificial Intelligence policy, as outlined in the syllabus. For more information on AI, please reference this in the syllabus statements:
<https://www.southplainscollege.edu/syllabusstatements/>

Cheating violations include, but are not limited to, the following:

1. Obtaining an examination by stealing or collusion;
2. Discovering the content of an examination before it is given;
3. Using an unauthorized source of information (notes, textbook, text messaging, internet, apps) during an examination, quiz, or homework assignment;
4. Entering an office or building to obtain unfair advantage;
5. Taking an examination for another;
6. Altering grade records;
7. Copying another's work during an examination or on a homework assignment;
8. Rewriting another student's work in Peer Editing so that the writing is no longer the original student's;
9. Taking pictures of a test, test answers, or someone else's paper.

Exam Schedule

EXAM 1.	Feb. 3rd Chapters 1&2	Cumulative Final: May 8th 8:00 am cafe.
EXAM 2.	March 3rd Chapters 3&4	(April 24th - last day to drop a course)
EXAM 3.	April 17th Chapters 5&6	
EXAM 4.	April 25th Chapter 7	

Schedule

Week	Date	Topic
Week 1	Jan 7	Go over syllabus/lab notebook/Lab report format/score sheet/Blackboard/polyatomic ion list/supplies, hypothesis for 1st lab assignment due Wednesday for HW;Chapter 1 Notes pages 1-2 (Matter/SciMethod/Scientists)
	Jan 8	LAB1 Reaction in a Bag: Scientific Method (Flinn Scientific): lab report required
	Jan 9	Chapter 1 Notes pages 3-4 (Units/Precision/Accuracy)
	Jan 10	Work on HW due Tuesday and work on lab report
Week 2	Jan 13	Review of SigFigs (WS)
	Jan 14	First Day of Class SPC (HW due); Open Notes Quiz #1 Notes pgs 6-7 (Dimensional Analysis/Temp Conversions); WS
	Jan 15	LAB 2 - The Density of Liquids and Solids with graphing (Lab document with data tables, graphs, & questions) Notes pg 8; Lab 1 Reaction in A Bag lab report due
	Jan 16	Chap 1 Notes pg 8-9 Classification of Matter (flow chart)
	Jan 17	Work on HW - attach Quiz 1 corrections
Week 3	Jan 20	SPC/PISD Holiday
	Jan 21	Open Notes Quiz #2 ; Chapter 2 History/Laws pg1-3; Ch 2 pages 4-6 (Early Experiments) (HW due)
	Jan 22	LAB 3 - Dimensional Analysis Lab Challenge Ch 1 pages 6-7 The Density of Liquids and Solids Lab report due
	Jan 23	Chapter 2 Isotopes/Ions/Molecules pg 7 memorize polys; make index cards
	Jan 24	Work on HW - attach Quiz 2 corrections; complete index cards/polys
Week 4	Jan 27	Open Notes Quiz #3; Polyatomic ion Quiz (bonus) - so 2 short quizzes today - no notes on poly quiz
	Jan 28	Naming/Formula writing review/ ADD acids (Tournament) (HW due)
	Jan 29	English 1 & 2 Benchmark
	Jan 30	Begin to certify rosters; LAB 4 - Lab2D: Separation of a Mixture by Paper Chromatography (Written Lab Report turned in on Bb) Lab 3 due
	Jan 31	Quiz #3 corrections (attach to review) ;Exam 1 review
Week 5	Feb 3	Exam 1 (Chapter 1&2) - I work this day
	Feb 4	Chapter 3 pgs1-4 (average atomic mass/mole conversions)(HW due)
	Feb 5	LAB 5 Hydrate Lab (ChromatographyWritten Lab Report due)
	Feb 6	Chapter 3 pgs 6-7 (% composition); work on Hydrate Lab
	Feb 7	Work on HW - attach Exam 1 corrections; Ch 3 pgs 8-10 (Empirical/Molecular formulas); HW due Tuesday

Week 6	Feb 10	Open Notes Quiz #4; Watch video of balancing word equations and do HW
	Feb 11	Ch 3 pgs 11-12 -Balancing from Word Eq; (HW due)
		LAB 6 Precipitation Reactions Mini Lab (Lab report for this lab);Hydrate Lab due
	Feb 13	Ch 3pg 13-16; Stoichiometric Calculations; Watch Video and do HW
	Feb 14	Work on HW - attach Quiz 4 correctionsQuiz #4 Ch 3 16-18; Calculations with limiting reactants; Watch video
Week 7	Feb 17	(PISD holiday NOT SPC);Open Notes Quiz #5
	Feb 18	(PISD holiday NOT SPC); Review Balancing from word eq, stoichiometry, & limiting reactants (all HW due from previous week)
	Feb 19	(PISD holiday NOT SPC);LAB 7 Virtual Lab Determining Stoichiometric Coefficients; chemcollective.org; (Precip Lab Report due)
	Feb 20	(PISD holiday NOT SPC); Notes Ch 4 pg 7-9; Precipitation Reactions (solubility rules); predict from 2 reactants
	Feb 21	(PISD holiday NOT SPC); Quiz #5 corrections(attach to HW); Identifying Types of Reactions (Acid/Base,Precip/Redox) HW due Tuesday
Week 8	Feb 24	Open Notes Quiz #6
	Feb 25	Ch 4 pgs 1-12; Acid/Base Reactions (HW due)
	Feb 26	LAB 7 Titration of Household Items Exp 12 ; Virtual Lab due
	Feb 27	Balancing Redox
	Feb 28	Work on HW - attach Quiz 6 corrections
Week 9	March 3	Exam 2 (Chapters 3&4)
	March 4	Notes Ch 5 pgs 1-4; Boyles, Charles, Gay-Lussacs, Avogadros, Combined Gas Laws(HW due)
	March 5	LAB 8 - Pressure-Temperature Relationship in Gases (LabQuest)
	March 6	Notes Ch 5 pgs 5-6; Ideal Gas Law
	March 7	Work on HW - Exam 2 corrections
Week 10	March 10	Open Notes Quiz #7
	March 11	Notes Ch 5 8-10; Density, Dalton's Law, Water Displacement(HW due)
	March 12	LAB 9 - Molar Mass of Butane (Flinn) (Lab Report for this Lab);Pressure-Temperature Relationship in Gases (LabQuest) due
	March 13	Chapter 6 Timberlake Slides 34-36; Heating curve, Heat of Fusion/Vaporization calculations
	March 14	Work on HW - attach Quiz 7 corrections
	March 17-21	Spring Break - both PISD and SPC
Week 11		Open Notes Quiz #8

	March 24	
	March 25	Notes Ch 6 Timberlake Slides 38-39; Heat of vaporization calculations(HW due)
	March 26	LAB 10 - Specific Heat of a Metal (Molar Mass Butane Lab Report due)
	March 27	Notes Ch 6 Timberlake Slides 40-42; combined heat calculations
	March 28	Work on HW - attach Quiz 8 corrections
Week 12	March 31	Open Notes Quiz #9
	April 1	Notes Ch 6 Timberlake Slides 43-50; Humpy diagrams (PE diagrams) and Endothermic and Exothermic Reactions (HW due)
	April 2	LAB 11 - Cool Reaction (Flinn); Specific Heat of a Metal Lab due
	April 3	Chapter 8 pgs 7-8 Enthalpy; Finish Cool Reaction Lab
	April 4	Work on HW - attach Quiz 9 corrections; Review Chapter 5&6 Exam
Week 13	April 7	Exam 3 (Chapters 5&6)
	April 8	Notes Ch 7 pgs 4-6; Atomic Emission Spectrum review then Notes Ch 7 pgs 9-10; Quantum Numbers
	April 9	LAB 12 - Atomic Spectra (Flinn)
	April 10	Eng 1 & Eng 2 STAAR- I work today.
	April 11	Work on HW - attach Exam 3 corrections
Week 14	April 14	Open Notes Quiz 10 ;Notes Ch 7 pgs 9-10; Orbital Filling video
	April 15	Bio STAAR - I'm off this day. (HW due)
	April 16	LAB 13 - Plotting Trends: A Periodic Table Activity—ChemTopic™ Lab Activity OR another similar lab Atomic Spectra Lab Report due
	April 17	Orbital filling/E- configuration/quantum number worksheet
	April 18	Easter - both PISD and SPC
Week 15	April 21	Open Notes Quiz #11 ; Advanced Periodic Trends POGIL
	April 22	US History STAAR - I work today.
	April 23	LAB 14 - Activity Series Lab (Microscale)(HW due)
	April 24	Algebra 1 STAAR - I'm off this day. Video on Orbital Shapes; Review for Exam 4 Last day to drop course
	April 25	Exam 4 (Chapter 7)
Week 16	April 28	Notes Ch 8 pgs Bonding Concepts/Drawing Lewis Structures
	April 29	Drawing more complicated Lewis Structures
	April 30	LAB - VSEPR lab (more complicated structure - ions)(HW due) Activity Series Lab Report due
	May 1	Open Notes Quiz #12 ; Go over Quiz
	May 2	Review for Final Exam

Week 17	May 5	Finals Week - Review
	May 6	Review
	May 7	Review
	May 8	Final Exam Last Day of Class (grades due May 12th at 10:00 am)
Week 18	May 12	Grades due by 10 am

*This syllabus/schedule is a fluid document and may change to benefit the students and/or educational process.