

**South Plains College
Common Course Syllabus: CHEM1406
Fall 2026**

Department: Science

Discipline: Chemistry

Course Number: CHEM1406

Course Title: Introductory Chemistry

Available Formats: Conventional (Fully Face-to-Face 3-4 days)/1-2 days (Success Coach)

Campus: Dual Credit – Plainview Collegiate High School, located at the SPC Extension Center, Plainview, TX

Instructor: Tracy Dawson; tracy.dawson@plainviewisd.org; Room: SPC 120; 806-293-6005; 806-292-0291

Course Description: Survey course introducing chemistry. Topics may include inorganic, organic, biochemistry, food/physiological chemistry, and environmental/consumer chemistry. Designed for allied health students and for students who are not science majors. Basic laboratory experiments supporting theoretical principles presented in lecture; introduction of the scientific method, experimental design, data collection and analysis, and preparation of laboratory reports. This course may not be substituted for CHEM 1411.

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, 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. Convert units of measure and demonstrate dimensional analysis skills
2. Define the fundamental properties of matter and classify matter, compounds, and chemical reactions.
3. Determine the basic nuclear and electronic structure of atoms.
4. Distinguish between ionic and covalent compounds and name the different compounds.
5. Identify trends in chemical and physical properties of the elements using the periodic table.
6. Determine the role of energy in physical and chemical reactions.
7. Use the mole concept to determine the number of atoms, moles, and grams, and solve elementary stoichiometry-based calculations.
8. Determine the concentrations of solutions using percentage and molarity designations.
9. Use various characteristics of a solution to identify it as an acid or base.
10. Identify and name various organic compounds.
11. Identify and explain the functions of carbohydrates, lipids, and proteins.

From Lab:

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 – 15%

Quizzes – 15%

Final Exam – 20%

Students will be evaluated through weekly quizzes, lecture exams, and laboratory performance. Typically, weekly quizzes and exams are administered on Fridays or Mondays, and lab exercises are held on Wednesdays. 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 given on Monday) and due on the following Tuesday (if the quiz was given 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.

Exams cover 1/5 of the class material. **The lowest Exam grade will be dropped near the end of the semester. One of your lowest quiz and lab grades will be dropped at the end of each six weeks. All grades will be dropped before the last day to drop the course, so you can decide whether to drop it.** 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 inform me as soon as possible before the exam. If you do not sit the exam without first contacting me, you will receive a score of zero for that exam, with no opportunity for a makeup. **No assignment may be completed after feedback has been posted on Blackboard. If AI is used on any assignment, plagiarism is detected, or cheating is attempted, a grade of zero will be given; the second occurrence will result in the student being withdrawn from the course without credit.** You must study the content throughout the semester to be successful in chemistry. If you are suspected of academic dishonesty for any of the following reasons: involving the use of AI, using your phone for answers, finishing a quiz/exam in a short amount of time, writing in a form that does not match your abilities, or any other form of suspected academic dishonesty, you will receive a zero on the assignment/quiz/lab/exam. If you choose to recover that grade, you can schedule an oral assignment/quiz/lab/exam with me within a week of when you receive your grade.

Attendance Policy: Lecture and laboratory attendance are 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 be attentive to classroom instruction.

Dropping a Course: Students may drop courses through Texan Connect, the Admissions and Records Office, or the 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 the 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 before 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/>. PCHS Honor Code and AI policy may be found in the SPC Blackboard course.

Plagiarism and Cheating: Students are expected to do their own work on all projects, quizzes, 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 an 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.	Sept. 4th Chapters 1&2	Cumulative Final: December 10th, 8:00 am
EXAM 2.	Sept. 21st Chapter 3	(Dec. 3rd - last day to drop a course)
EXAM 3.	October 26th Chapter 4	
EXAM 4.	November 16th Chapters 5&6	
EXAM 5.	December 4th Chapter 7&8	

Schedule

Week	Date	Topic
Week 1	August 12	Introductions/go over syllabus/lab notebook/Blackboard/element list/supplies, check personal email for Bb login, Scavenger Hunt for Syllabus assignment; Chap1 Slides 1-12, 39-40 metric system & prefixes
	August 13	Access SPC Bb if possible; Chap1 Slides 13-27; measured vs. exact numbers, scientific notation
	August 14	Scientific notation, sig figs (can use reference sheet for rules); short Sig fig POGIL activity - complete in groups, hand out counting sig figs worksheet for HW; watch video if you need more instructions
Week 2	August 17	Open Note Quiz #1 (Slides 1-12, 39-40, 13-27); complete element flashcards and complete counting sig figs 1-10 on WS
	August 18	Envelope activity; Chap1 Slides 28-38 (add/sub&mult/div of sig figs); worksheet sig figs calculations (x/+-) HW assign portion of WS
	August 19	Log in to the Wi-Fi for SPC if able; Lab #1 Safety - Lab procedures/draw and label safety equipment in lab room, attach drawing to Bb assignment name Lab #1 Safety
	August 20	Slides 41-62; Equalities, conversions, conversion worksheet HW
	August 21	Complete conversion worksheet for HW; see video on Bb if needed
Week 3	August 24	Open Notes Quiz #2 (Slides 28-38, lab safety/equipment, 41-62); check personal email for Bb login - 1st Class Day -SPC
	August 25	Practice conversions/go over the worksheet
	August 26	Lab #1 due; Lab #2 Measurement Lab (Experiment #2 in lab manual)
	August 27	Chap2 Slides 21-35 complete atomic structure worksheet for HW
	August 28	Element Quiz 1-30; Chap2 Slides 36-42; Isotopes; isotope worksheet for HW; watch video for added instruction to begin class
Week 4	August 31	Open Note Quiz #3 (Chap2 Slides 21-42); Chap2 Slides 43-52 EMR, EMS, Energy Levels, Energy Shell Arrangement; handout Lecture Exam review
	September 1	Chap2 Slides 43-52 EMR, EMS, Energy Levels, Energy Shell Arrangement
	September 2	Lab #2 due; Lab #3 Color periodic table activity (Chap2 Slides 1-20); activity on PowerPoint
	September 3	Lecture exam Chapter 1&2 review
	September 4	Exam 1 (Measurement & Atoms/Elements)
Week 5	September 7	Labor Day Holiday (SPC & PISD); Quiz on Tuesday ENJOY YOUR DAY!
	September 8	Chapter 3 Notes will be POGIL Coulombic Attraction & Periodic Trends; Coulombic Attraction Model 1-2
	September 9	Lab #3 due; Lab #4 ID and use of equipment/lab probes with sensors/Scale/Burets/Bunsen burner; Official census day
	September 10	Coulombic Attraction POGIL - Models 3-4; Certify rosters!!!

	September 11	Type a page describing Coulombic Attraction, giving examples, and drawing pictures, etc. on Google Doc.
Week 6	September 14	Open Notes Quiz #4 (Coulombic Attraction); Periodic Trends video and worksheet; Hand out Exam 2 Review; Complete Roster Certification
	September 15	Periodic Trends POGIL (pg. 1-3)
	September 16	Lab 4 due; Lab #5 Flame tests;
	September 17	Periodic Trends POGIL (pg. 4-5)
	September 18	Open Notes Quiz #5 (Periodic Trends); NOT an SPC holiday (PISD holiday); Quiz will be at home and open from 8:00-4:00; Feedback will post at 5:00 pm
Week 7	September 21	Exam 2 Periodic Table, Coulombic Attraction and PT Trends
	September 22	Chap4 Slides 1-19; Ion Worksheet for HW
	September 23	Lab 5 due: Lab #6 density (Teach during lab time)
	September 24	Chap4 Slides 21-31; Positive Ion (Cation) worksheet for HW
	September 25	Complete worksheets from Tuesday/Thursday
Week 8	September 28	Open Notes Quiz #5 (Slides 1-19&density); Write the sentence for multiple charges until memorized!
	September 29	Chap 4 Slides 32-37: Cations with Multiple charges worksheet
	September 30	Lab #6 due; Lab #7 Atoms & Molecules (Experiment #5) no naming on formula section until Tuesday
	October 1	Chap4 Slides 38-43; Covalent Bonding; worksheet
	October 2	Chap4 Slides 44-49; Multiple Bonds and naming covalent; watch video/worksheet for HW
Week 9	October 5	Open Notes Quiz #6 (Slides 21-43); Quiz will be taken at home and open from 8:00-4:00; Feedback will be posted at 5:00 pm. Chap4 Slides 52-58; Types of Bonds (Polar covalent/nonpolar covalent/ionic); video NOT SPC holiday; PISD holiday
	October 6	Slides 59-69 Polyatomic Ions Video; worksheet HW NOT SPC holiday; PISD holiday
	October 7	Home Lab #8 Slides 70-83 https://contrib.pbslearningmedia.org/WGBH/arct15/SimBucket/Simulations/chemthink-ionicbonding/content/index.html Lab #8 VSEPR lab Experiment 6 (Slides 70-83);
	October 8	Chap4 (Slide 83-87); polar and nonpolar molecules and continue with VSEPR; work on lab NOT SPC holiday; PISD holiday
	October 9	Make polyatomic ion flashcards, NOT SPC holiday; PISD holiday
Week 10	October 12	Open Note Quiz #7 (Slides 44-87); worksheet with video
	October 13	Types of Bonds Combined worksheet/video
	October 14	Home lab #8 Lab #8 VSEPR lab Experiment 6 (Slides 70-83); must build structures, can work on the rest during the week
	October 15	Naming Practice Combined worksheet/video
	October 16	Complete Worksheeet from Thursday; SPC Fall Break NO HW ASSIGNMENT
Week 11	October 19	Open Note Quiz #8 (Slides 1-83); Quiz will be 20 questions; Pass out review for Exam 3

	October 20	Formula Writing Combined worksheet
	October 21	Lab #10; PHET activity https://phet.colorado.edu/services/download-servlet?filename=%2Factivities%2F3478%2Fphet-contribution-3478-6102.docx
	October 22	Naming/Writing Formulas /Drawing practice
	October 23	Review for Exam 3: Compounds and Their Bonds
Week 12	October 26	Exam 3 Compounds (Compounds and Their Bonds)
	October 27	Chap5 (Slides 1-10); physical/chem change/writing a chem rxn/symbols; worksheet
	October 28	Lab #11 Chemical Reactions Lab (use later for balancing) - just look for identifiers in this lab
	October 29	Chap 5 (Slides 11-20); Balancing chemical equations; worksheet
	October 30	Chap5 (Slides 21-37); Types of chemical reactions; worksheet continued (complete reaction from lab)/video of types of reactions
Week 13	November 2	Open Note Quiz #9 (Slides 1-37); Mole notes (Slides 45-56); video on mole/Avogadro's number
	November 3	Chap5 (Slides 57-65); using molar mass as a conversion factor and mole factors; worksheet
	November 4	Lab #12 Experiment 7 Determining Mole Ratios; lab 11 due
	November 5	Chap6 (Slides 1-14) PE/KE, specific heat
	November 6	Quiz #9 corrections; Chap6 (Slides 15-18) Heat calculations; worksheet/video
Week 14	November 9	Open Notes Quiz #10 Slides Chap5 Slides 57-65, Chap6 Slides (1-18); hand out Exam 5 review
	November 10	Chap6 (Slides 19-31); State of Matter (s,l,g) and attractive forces (IMF's)
	November 11	Lab #13 Endothermic/Exothermic Lab; lab 12 due
	November 12	Chap6 (Slides 32-34); changes of state/heating curve; worksheet
	November 13	Quiz #10 corrections; Exam 5 Review Registration for Spring 2024 begins
Week 15	November 16	Exam 4 Chemical Reactions and Energy
	November 17	Chap7 (Slides 1-9;12-17) Boyles Law; worksheet
	November 18	Lab #14 Experiment #9; Boyles Law
	November 19	Chap7 (Slides 18-25) Charles Law; worksheet
	November 20	Chap7 (Slides 26-30) Gay-Lussac's Law; worksheet
Week 16	November 23	Open Notes Quiz #11 Slides 1-30 (PISD holiday, NOT SPC) Quiz will be taken at home from 8:00 am - 4:00 pm (NOT SPC Holiday, PISD holiday)
	November 24	(NOT SPC Holiday, PISD holiday) Combined Gas Law video: Chap7 (Slides 31-33); Combined Gas Law worksheet
	November 25	SPC Thanksgiving Break NO ASSIGNMENT
	November 26	SPC Thanksgiving Break NO ASSIGNMENT
	November 27	SPC Thanksgiving Break NO ASSIGNMENT
Week 17	November 30	Chap7 (Slides 31-33); Combined Gas Law worksheet

	December 1	Chap8 (Slides 1-13) water/solvent/solute/like dissolves like/formation
	December 2	Lab #15 Mini Lab Gas Laws
	December 3	Chap8 (Slides 14-19, 25-33); electrolytes/solubility - solubility graph worksheet; (LAST DAY TO DROP)
	December 4	Exam 5: Gases and Solutions Exam
Week 18	December 7	Review for semester exam
	December 8	Review for semester exam
	December 9	Review for semester exam
	December 10	Final Exam Fall 2026 (all classes) at 8:00 am
	December 11	Final grades due BEFORE 10 am

This document is a fluid document and may be modified to benefit the students.