South Plains College
Common Course Syllabus: CHEM1411
Spring 2026

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 and 1411 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:

- **Communication 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. 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/Quiz Corrections - 5%

Students will be evaluated through weekly quizzes, homework, lecture exams, and laboratory performance. Typically, weekly quizzes or exams are given on either Fridays or Mondays, and lab exercises are conducted on Wednesdays 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 four

forty-five-minute exams and a final exam. Each exam will cover approximately 1/4 of the class material.
Exams must be monitored by either a success coach or me. 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 can be replaced by the final exam grade once the final has been taken at 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 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 the exam, for +5 extra credit on the exam. In addition, there will also be occasional extra credit on quizzes of +5 for polyatomic ion formulas, etc.

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 to be attentive to 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, and the Lubbock Career and Technical 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/.

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 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.	Feb. 2nd Chapters 1&2	Cumulative Final: May 7th 8:00 am cafe.
EXAM 2.	March 2nd Chapters 3&4	(April 24th - last day to drop a course)
EXAM 3.	April 16th Chapters 5&6	
EXAM 4.	April 24th Chapter 7	

Schedule

Week	Date	Topic
Week 1	Jan 6	Mrs. Robison speaks about course selections, etc.
	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	Chapter 1 Notes pages 3-4 (Units/Precision/Accuracy); lab report format; examples, etc.
	Jan 9	Work on HW due Tuesday
Week 2	Jan 12	**Open Notes Quiz #1** Review of SigFigs (WS) - Bb access; First Day of Class SPC
	Jan 13	Notes pgs 6-7 (Dimensional Analysis/Temp Conversions); WS; HW due
	Jan 14	**LAB1** Reaction in a Bag: Scientific Method (Flinn Scientific): **lab report required**
	Jan 15	Chap 1 Notes pg 8-9 Classification of Matter (flow chart)
	Jan 16	Work on HW - attach Quiz 1 corrections
Week 3	Jan 19	**SPC/PISD Holiday**
	Jan 20	**Open Notes Quiz #2;** Chapter 2 History/Laws pg1-3; Ch 2 pages 4-6 (Early Experiments) (HW/corrections due)
	Jan 21	**LAB 2** - The Density of Liquids and Solids with graphing (Lab document with data tables, graphs, & questions) **Lab 1 Reaction in A Bag lab report due**
	Jan 22	Chapter 2 Isotopes/Ions/Molecules pg 7 memorize polys; make index cards
	Jan 23	Work on HW - attach Quiz 2 corrections; complete index cards/polys
Week 4	Jan 26	**Open Notes Quiz #3; Polyatomic ion Quiz (bonus) - so 2 short quizzes today - no notes on poly quiz**
	Jan 27	Naming/Formula writing review/ ADD acids (Tournament) (HW/corrections due)
	Jan 28	English 1 & 2 Benchmark (Census); Make paper with lines and put food coloring on paper to dry
	Jan 29	**LAB 3** - Lab2D: Separation of a Mixture by Paper Chromatography; **lab report required, Lab 2 Density of Liquids & Solids due;** Begin to certify rosters.
	Jan 30	Quiz #3 corrections (attach to review); Exam 1 review
Week 5	Feb 2	**Exam 1 (Chapter 1&2) - I work this day - Certify Rosters by 10 am**
	Feb 3	Chapter 3 pgs1-4 (average atomic mass/mole conversions)(HW due)
	Feb 4	**LAB 4** Hydrate Lab Experiment 8; **Lab 3 Chromatography Written Lab Report due**

	Feb 5	Chapter 3 pgs 6-7 (% composition);Ch 3 pgs 8-10 (Empirical/Molecular formulas); question on Hydrate lab
	Feb 6	Work on HW due Tuesday
Week 6	Feb 9	**Open Notes Quiz #4; Watch video of balancing word equations and do HW (PISD holiday NOT SPC)**
	Feb 10	**Ch 3 pgs 11-12 -Balancing from Word Eq; (HW due) (PISD holiday NOT SPC)**
	Feb 11	**LAB 5 Virtual Lab Determining Stoichiometric Coefficients; chemcollective.org; Hydrate Lab due (PISD holiday NOT SPC)**
	Feb 12	**Ch 3pg 13-16; Stoichiometric Calculations; Watch Video and do HW (PISD holiday NOT SPC)**
	Feb 13	Work on HW - attach Quiz 4 corrections #4 **Ch 3 16-18; Calculations with limiting reactants; Watch video (PISD holiday NOT SPC)**
Week 7	Feb 16	**Open Notes Quiz #5;** Watch video on limiting reactants
	Feb 17	Review Balancing from word eq, stoichiometry, & lesson on limiting reactants (all HW due from previous week)
	Feb 18	**LAB 6** Precipitation Reactions Mini Lab; **Lab report required; LAB 7 Virtual Lab Determining Stoichiometric Coefficients; chemcollective.org due**
	Feb 19	Notes Ch 4 pg 7-9; Precipitation Reactions (solubility rules); predict from 2 reactants WS
	Feb 20	Work on HW and quiz corrections; Review Identifying Types of Reactions (Acid/Base, Precip/Redox); how to balance a redox reaction; HW due Tuesday
Week 8	Feb 23	**Open Notes Quiz #6;** Balancing Redox continued; Types of acids video and reactions
	Feb 24	Types of acids video and reactions Ch 4 pgs 1-12; Bronsted Lowry/Arrhenius/Lewis acids (HW/corrections due)
	Feb 25	**LAB 7** Titration of Household Items Exp 12; **LAB 6** Precipitation Reactions Mini Lab report due
	Feb 26	Acid-Base reactions HW
	Feb 27	Work on HW - attach Quiz 6 corrections; Review for Exam
Week 9	March 2	**Exam 2 (Chapters 3&4)**
	March 3	Notes Ch 5 pgs 1-4; Review Boyles, Charles, Gay-Lussacs, Avogadros, Combined Gas Laws; Lesson on Ideal Gas Law and real vs. ideal gases; (HW/corrections due)
	March 4	**LAB 8** - Pressure-Temperature Relationship in Gases (LabQuest); **Lab 7 due**
	March 5	Notes Ch 5 pgs 5-6; Ideal Gas Law WS
	March 6	Work on HW
Week 10	March 9	**Open Notes Quiz #7**
	March 10	Notes Ch 5 8-10; Density, Dalton's Law, Water Displacement(HW due)

	March 11	**LAB 9** - Molar Mass of Butane (Flinn); **Lab report required; Lab 8 due**
	March 12	Chapter 6 Timberlake Slides 34-36; Heating curve, Heat of Fusion/Vaporization calculations
	March 13	Work on HW/corrections
	March 16-20	**Spring Break - both PISD and SPC**
Week 11	Mar 23	**Open Notes Quiz #8;** Video on combined heat calculations
	March 24	Notes Ch 6 Timberlake Slides 38-39; Heat of vaporization calculations(HW due)
	March 25	**LAB 10** - Specific Heat of a Metal **Lab 9 Lab report due**
	March 26	Notes Ch 6 Timberlake Slides 40-42; combined heat calculations
	March 27	Work on HW/corrections
Week 12	March 30	**Open Notes Quiz #9;** Enthalpy, endo/exo video
	March 31	Notes Ch 6 Timberlake Slides 43-50; Humpy diagrams (PE diagrams) and Endothermic and Exothermic Reactions (HW due)
	April 1	**LAB 11**- Cool Reaction (Flinn); **Lab 10 due**
	April 2	Chapter 8 pgs 7-8 Enthalpy WS
	April 3	Review Chapter 5&6 Exam **(SPC Easter/PISD Weather Day) - no assignment**
Week 13	April 6	**Exam 3 (Chapters 5&6)**
	April 7	Notes Ch 7 pgs 4-6; Atomic Emission Spectrum review, then Notes Ch 7 pgs 9-10; Quantum Numbers
	April 8	Eng 1 & Eng 2 STAAR- I work today. Check this closer to the date?
	April 9	**LAB 12** - Atomic Spectra (Flinn); **Lab Report required**
	April 10	Work on HW - attach Exam 3 corrections
Week 14	April 13	**Open Notes Quiz 10;** Notes Ch 7 pgs 9-10; Orbital Filling video
	April 14	Bio STAAR - I'm off this day. (HW due) - Check this closer to the date
	April 15	**LAB 13** - Plotting Trends: A Periodic Table Activity—ChemTopic™ Lab Activity OR another similar lab or Activity Series**Lab 12 Lab Report due**
	April 16	US History STAAR - I work today. Check this closer to the date.
	April 17	Watch video. Complete Orbital filling/e- configuration/quantum number worksheet
`Week 15	April 20	**Open Notes Quiz 11;** video on Orbital Shapes; take notes; WS; work this day
	April 21	Finish Orbital filling/E- configuration/quantum number worksheet
	April 22	Algebra 1 STAAR - I'm off this day - check closer to the date. Video on Orbital Shapes; Review for Exam 4
	April 23	**Lab 14 -** Activity Series (Microscale) **Lab Report required; Lab 13 due**
	April 24	**Exam 4 (Chapter 7)**
Week 16	April 27	Notes/Video Ch 8 pgs Bonding Concepts/Drawing Lewis Structures

	April 28	Drawing more complicated Lewis Structures (ions) worksheet
	April 29	**LAB 15-** Shapes of Molecules VSEPR lab (more complicated structure - ions)(HW due) **Lab 14 Lab Report due**
	April 30	**Open Notes Quiz #12;** Go over Quiz Last Day to Drop
	May 1	**Review for Final Exam if here (Snow Day PISD NOT SPC)**
Week 17	May 4	Finals Week - Review
	May5	Review
	May6	**Review; Lab 15 due**
	May 7	**Final Exam** Last Day of Class
Week 18	May 11	**Grades due by 10 am**

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

https://www.southplainscollege.edu/syllabusstatements/