

South Plains College
Common Course Syllabus: CHEM 1406
Revised August 17, 2021

Department: Science

Discipline: Chemistry

Course Number: CHEM 1406

Course Title: Introductory Chemistry I

Available Formats: conventional, internet, hybrid, dual credit

Campus: Levelland

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. Semester Hours: 4 Lecture Hours: 3 Lab Hours: 3 Note: This course may not be substituted for CHEM 1411.

Prerequisites: None

Credit: 4 **Lecture:** 3 **Lab:** 3

Instructor: John Heh
Phone: 806.716.2323
E-mail: jheh@southplainscollege.edu

Office Hours: Tuesdays and Thursdays 9 AM to 11 AM and 1 PM to 2 PM
Fridays 9:30 AM to 11:30 AM

E-mail: When you have questions, problems, or comments, you can e-mail me through BlackBoard Course Messages. Please use the BlackBoard Course Messages tool to e-mail me. Do not use my South Plains College e-mail address unless it is an emergency. I will respond to your e-mail within one business day (excluding holidays). I generally will not check my e-mail from 12:00 noon on Friday to 8:00 AM Monday of the following week. I generally will not check my e-mail during holidays. Therefore, there will usually be no response during those times.

Expectations when Corresponding: Please be polite, courteous, and respectful when using BlackBoard Course Messages, e-mail, discussion forums, and chat rooms. Do not use profanity under any circumstances. Do not write disrespectful, insulting, mean, rude, profane, insensitive, or other hurtful messages or comments under any circumstances. Failure to abide by this policy will result in the

appropriate disciplinary actions. Students are expected to maintain a pleasant learning environment for themselves as well as for their classmates. Therefore, if, in the view of the instructor, a student is disrupting the class, the appropriate disciplinary action will be taken.

Online Disclaimer: This is to notify you that materials you may be accessing in chat rooms, emails, discussion forums or unofficial web pages are not officially sponsored by the instructor or South Plains College. The United States Constitution rights of free speech apply to all members of our community regardless of the medium used. The instructor and South Plains College disclaim all liability for data, information or opinions expressed in these forums.

Textbooks:

1. CHEM 1406 Textbook by John Heh. All lecture material, including this textbook is provided to you in BlackBoard on PowerPoints, Word files, PDF documents, and videos.
2. The Lab Manual is on BlackBoard through TexBook.

Supplies:

1. Scientific Calculator
2. Safety Glasses
3. 4 Scantron Sheets: Apperson Form 29240

SPC TexBook Syllabus Statement:

TexBook Program: *This course is in the SPC TexBook program, so you do not need to purchase a lab manual for this course.*

- **What is TexBook?** The required lab manual for this course is available to you in Blackboard from the first day of class. The fee for the lab manual is the lowest price available from the publisher and bookstore and is included in your tuition/fee payment.
- **How do I access my TexBook?** Your course material is in your Blackboard course from the first day of class. Access to your course material is provided either by RedShelf or other links inside your Blackboard course. RedShelf (and many publisher's) ebook features include the ability to hear the text read aloud, highlight, take notes, create flash cards, see word definitions, build study guides, print select pages, and download up to 20% of the book for offline access.
- **Help with TexBook issues and support:** check with your professor and/or contact <https://solve.redshelf.com/hc/en-us/requests/new>
- **Opting out of TexBook:** Participating in TexBook is not mandatory, and you can choose to opt-out. However; by opting-out you will lose access to the course [*lab manual*] and competitive pricing, and you will need to purchase the required course material on your own. If you drop the class or opt-out before the opt-out deadline, the TexBook charge will be automatically refunded to your SPC account. The opt-out deadline for Fall and Spring is the twelfth class day. The opt-out deadline for shorter terms varies between the second and third class day.

**Please consult with your professor before deciding to opt-out.*

If you still feel that you should purchase the lab manual on your own, send an **opt-out email** to **tfewell4texasbookcompany@gmail.com**. Include your first name, last name, student ID

number, and the course you are opting out of. Once you have been opted-out, you will receive a confirmation email. If you need assistance with the process, contact the SPC Bookstore:

Email: tfewell@texasbook.com / **Phone:** 806-716-2399

Email: agamble@texasbook.com / **Phone:** 806-716-4610

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. 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, 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:

Lecture Exams: There will be three lecture exams covering the material that is discussed during the lecture portion of this course. The schedule for the lecture exams is given in this course information sheet. Each lecture exam will count 100 points. The lecture exams will be approximately 25 questions. The format will be multiple choice. A scantron is required for the lecture exams. No outside material may be used on the lecture exams. You may only reference what is provided to you on the lecture exams. You will have the 75 minute designated class time to finish the exam. There will be no make-ups for lecture exams. A missed lecture exam will receive a grade of zero.

Exam 1 (Chapters 1, 2, 3):	100 points
Exam 2 (Chapters 4, 5, 6):	100 points
Exam 3 (Chapters 7, 8, 9):	100 points

The material scheduled for each lecture exam is subject to change. Changes will be announced if necessary.

There will be no make-ups for lecture exams unless a student is hospitalized or has a quarantine note from DeEtte Edens. This will require documentation to be provided to the Dean of Students and/or the Associate Director of Health & Wellness. All other missed lecture exams will receive a grade of zero.

Homework: Homework will be in the form of practice problems on the PDFs. The practice problems will not be collected and graded. It is essential that the practice problems be completed, as the practice problems will be very similar to the types of problems encountered on the chapter exams.

Lab Experiments: The lab experiment portion of this class will be comprised of topic discussion, homework problems practice; and most commonly, lab experiments. The lab portion of this course will consist of group work.

Lab Grade: The lab grade will come from lab reports. For most lab days, we will have a lab report that covers the material accomplished that day in lab. The lab reports will be completed in groups and the due date for the lab reports will be announced during lab. Most lab reports will be due the same day the lab is performed. The lab groups will consist of 2 to 4 students. The lab experiments must be completed on the day that they are scheduled. There will be no make-ups for the lab experiments or the lab reports. If a student misses a lab report, a grade of zero will be assigned for that lab report. The lab reports count 10 points each. There will be ONE lab report turned in per group. Make sure your name is placed on the lab report when it is turned in. If your name is not on the lab report, you will receive a grade of zero. There will be fourteen graded lab reports. The format will mostly be multiple choice. The lowest four lab report grades will be dropped.

Therefore, 10 lab reports will count for a total of 100 points.

Lab Reports (10 points each) 100 points total

The material scheduled for each lab is subject to change. Changes will be announced if necessary.

There will be no make-ups for the lab reports unless a student is hospitalized or has a quarantine note from DeEtte Edens. This will require documentation to be provided to the Dean of Students and/or the Associate Director of Health & Wellness. All other missed lab reports will receive a grade of zero.

Final Exam Grade: If the final exam grade is higher than your lowest lecture exam grade, the final exam grade will replace that one lecture exam grade. In that case, the final exam will count twice: once for the final exam grade and once to replace that one lecture exam grade. (e.g. You miss a lecture exam and receive a zero. You later on make an 80 on the final exam. Then the 80 will replace the zero and the 80 will be the final exam grade as well.) This only applies to one lecture exam grade even if multiple lecture exam grades are tied for the lowest lecture exam grade. In all other cases, the final exam counts once and no lecture exam grades are dropped.

Final Course Grade: At the end of the semester, all of your points earned will be added together. Your final course grade will come from your point total. The point totals and their corresponding final course grades are listed below:

Point total:	Final Course Grade:
445 and above	A
395 – 444	B
345 – 394	C
295 – 344	D
0 – 294	F

Attendance Policy: Students are expected to attend all classes in order to be successful in this course. Students are officially enrolled in all courses for which they pay tuition and fees at the time of registration. Attendance will be taken until the 12th class day (official census date). Students who enroll in a course but have “Never Attended” by the official census date, as reported by the faculty member, will be administratively dropped by the Office of Admissions and Records. If it is determined that a student is awarded financial aid for a class or classes in which the student never attended or participated, the financial aid award will be adjusted in accordance with the classes in which the student did attend/participate and the student will owe any balance resulting from the adjustment. This is in accordance with the policies set forth in the SPC General Catalog. This course information sheet contains the schedule of lectures and labs. If you are unable to finish this course, complete a withdrawal slip at the registrar’s office.

COVID-19 Statement: If you are experiencing any of the following symptoms please do not attend class and either seek medical attention or get tested for COVID-19.

- Cough, shortness of breath, difficulty breathing
- Fever or chills
- Muscles or body aches
- Vomiting or diarrhea
- New loss of taste and smell

Please also notify DeEtte Edens, BSN, RN, Associate Director of Health & Wellness, at dedens@southplainscollege.edu or 806-716-2376.

Plagiarism and Cheating: Students are expected to do their own work on all projects, quizzes, assignments, examinations, and papers. Cheating will not be tolerated. If a student is caught cheating on an exam or lab report, a grade of zero will be given for that exam or lab report.

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

1. Turning in a paper that has been purchased, borrowed, or downloaded from another student, an online term paper site, or a mail order term paper mill;
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.

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.

Student Code of Conduct Policy: Any successful learning experience requires mutual respect on the part of the student and the instructor. Neither instructor nor student should be subject to others' behavior that is rude, disruptive, intimidating, aggressive, or demeaning. Student conduct that disrupts the learning process or is deemed disrespectful or threatening shall not be tolerated and may lead to disciplinary action and/or removal from class.

Diversity Statement: In this class, the teacher will establish and support an environment that values and nurtures individual and group differences and encourages engagement and interaction. Understanding and respecting multiple experiences and perspectives will serve to challenge and stimulate all of us to learn about others, about the larger world and about ourselves. By promoting diversity and intellectual exchange, we will not only mirror society as it is, but also model society as it should and can be.

Disability Statement: Students with disabilities, including but not limited to physical, psychiatric, or learning disabilities, who wish to request accommodations in this class should notify the Disability Services Office early in the semester so that the appropriate arrangements may be made. In accordance with federal law, a student requesting accommodations must provide acceptable documentation of his/her disability to the Disability Services Office. For more information, call or visit the Disability Services Office at Levelland (Student Health & Wellness Office) 806-716-2577, Reese Center (Building 8) 806-716-4675, or Plainview Center (Main Office) 806-716-4302 or 806-296-9611.

Nondiscrimination Policy: South Plains College does not discriminate on the basis of race, color, national origin, sex, disability or age in its programs and activities. The following person has been designated to handle inquiries regarding the non-discrimination policies: Vice President for Student Affairs, South Plains College, 1401 College Avenue, Box 5, Levelland, TX 79336. Phone number 806-716-2360.

Title IX Pregnancy Accommodations Statement: If you are pregnant, or have given birth within six months, Under Title IX you have a right to reasonable accommodations to help continue your education. To activate accommodations you must submit a Title IX pregnancy accommodations request, along with specific medical documentation, to the Director of Health and Wellness. Once approved, notification will be sent to the student and instructors. It is the student's responsibility to work with the instructor to arrange accommodations. Contact the Director of Health and Wellness at 806-716-2362 or email lcleavinger@southplainscollege.edu for assistance.

Lab Safety: The chemistry laboratory is a potentially hazardous environment. Therefore, all students must follow all of the safety rules passed out to you during the safety presentation. The students must also follow any specific safety rules listed in the lab manual and any that the instructor may announce during a lab period. A student not following the safety rules may be asked to leave the laboratory.

Safety Rules: These safety rules will be passed out in lab. The safety rules must be followed. Failure to do so can result in you being asked to leave the laboratory. You will be required to sign a sheet indicating you have read and agreed to follow the safety rules before being allowed to perform an experiment.

Copyright Notice: All material presented by the instructor in this online class is copyright protected. The material presented by the instructor may not be modified or altered in any way. You have permission to print out one copy of any material presented by the instructor in this online class (class information sheet, course orientation, and chapter PowerPoint or PDF presentations). The one copy must only be used for your personal educational use during this semester. The material may not be altered or modified in any way. The material may not be distributed in any way. You have permission to download the same material to your computer hard drive or other medium in order to print out the material. Any material downloaded must only be used for your personal educational use. The downloaded material may not be altered or modified in any way. The downloaded material may not be distributed in any way.

Logging into the Course: You are not allowed to give your user ID and/or password to anyone. You will be dropped and given an F for your final grade if someone besides you is caught logging into this course under your user ID and/or password.

Course Schedule: The following table contains the tentative course schedule. All material (including lecture material, experiment material, and material scheduled for the chapter exams) is subject to change. Also, all dates are subject to change. Changes will be announced if necessary.

CLASS SCHEDULE SUBJECT TO CHANGE					
WEEK	WEEK OF	M LECTURE	M LAB	W LECTURE	W LAB
1	AUGUST 30	CHAP 1	NO LAB	CHAP 1	NO LAB
2	SEPTEMBER 6	NO CLASS	NO LAB	CHAP 1/2	Safety Rules
3	SEPTEMBER 13	CHAP 2	EXP 1 - Measurements	CHAP 3	EXP 2 - Density
4	SEPTEMBER 20	CHAP 3	EXP 3 - Elements and Compounds	CHAP 3	EXP 11 - Spectroscopy
5	SEPTEMBER 27	CHAP 4	WORKSHEET	EXAM 1	NO LAB
6	OCTOBER 4	CHAP 4	EXP 4 - Mole Ratios	CHAP 4/5	EXP 5 - Hydrates
7	OCTOBER 11	CHAP 5	EXP 9 - Calorimetry	CHAP 6	EXP 7 - Boyle's Law
8	OCTOBER 18	CHAP 7	EXP 8 - P and T	EXAM 2	NO LAB
9	OCTOBER 25	CHAP 7	EXP 6 - Molar Mass	CHAP 8	WORKSHEET
10	NOVEMBER 1	CHAP 8	WORKSHEET	CHAP 8/9	WORKSHEET
11	NOVEMBER 8	CHAP 9	EXP 10 - Reactions	CHAP 9	WORKSHEET
12	NOVEMBER 15	CHAP 9/10	NO LAB	EXAM 3	NO LAB
13	NOVEMBER 22	CHAP 10	EXP 12 - Acids and Bases	NO CLASS	NO LAB
14	NOVEMBER 29	CHAP 10/11	NO LAB	CHAP 11	NO LAB
15	DECEMBER 6	CHAP 11/12	NO LAB	CHAP 12	NO LAB
16	DECEMBER 13	FINAL EXAM - DEC 13 at 8:00 AM			