

South Plains College
Common Course Syllabus: CHEM 1411
Revised Summer 2026

Department: Science

Discipline: Chemistry

Course Number: CHEM 1411

Course Title: General Chemistry I

Instructor: Katheryn Townsend

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Office Hours: BY APPOINTMENT ONLY

Available Formats: LECTURE AND LAB ONLINE

Campuses: Levelland

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: Prerequisite: MATH 1314 College Algebra or equivalent academic preparation. High school chemistry is strongly recommended

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

Course Specific Instructions: This course is completely online. Please expect to spend AT LEAST 30-40 hours per week reading, completing assignments and experiments, and exams weekly. You must be very self-disciplined to complete an online course. All assignments, worksheets, and exams etc. must be completed and submitted by their specific deadlines.

Textbook: NO TEXTBOOK REQUIRED

Supplies:

- **To purchase:**
 - **Lab Kit – REQUIRED**, Purchased from Carolina Distance Learning, details below
 - **Calculator – REQUIRED**, must be scientific, **CELL PHONES NOT ALLOWED**
 - You will need a scientific calculator for this course. An inexpensive model will be just fine. You are responsible for learning how to use your calculator. Cell phones CAN NOT be used for calculators. TI-30XA is NOT recommended.
 - **May need extra materials to prepare 2 posters**

- **Camera or Scanner and a way to upload pictures to Blackboard** – cell phone cameras are perfect! You just need a way to take a picture of your experiment's Data Tables and be able to submit it on Blackboard! CamScanner and Scannable are a couple of great apps that help with this but there are many others! ***PDF files will be the only file type accepted!***
- **Obtained from Blackboard:**
 - **Lab Manual – REQUIRED, CHEM 1411 Lab Manual AND Carolina Lab Manuals**
 - **Power Point Notes, Outlines and Videos - REQUIRED**
 - On Blackboard, each Chapter will have a folder in the Chapter Notes tab. Here you will find Power Point Notes, Outlines and Videos.
 - **Chapter Worksheets** – Optional, but highly recommended
 - These are worksheets designed to help you apply the material from the chapter and can be used to study for exams.
 - **Exam Practice Problems** – Optional but highly recommended
 - These are problems that I have designed for further practice and study before every exam.
 - **Periodic Table – REQUIRED**
 - **Labs/Experiments – REQUIRED**
 - Some experiments will be done out of the South Plains College Lab Manual and some experiments will be done using the Carolina Distance Learning Lab Kit. Instructions and details will be provided on Blackboard.

Minimum Computer Requirements:

1. Personal computer with a 1 GHz Pentium processor and at least 512 MB of RAM memory, a minimum 5 GB of free hard drive, running Windows 7 / MacOS 10.8 or later (Windows 10 / MacOS 10.12 recommended).
2. Web Browser: Google Chrome seems to work the best with Blackboard and HOL.
3. A high speed internet connection of 5+ Mbps.
4. Microsoft Office and Microsoft PowerPoint and Word software (a recent version, preferably 2016 or higher).
5. Windows Media Player (the latest version).
6. Soundcard and functioning speakers.
7. Knowledge of how to navigate Google Chrome web pages and how to deal with pop-up blockers and other devices and warnings on Google Chrome.
8. Knowledge of how to download files from the Google Chrome and find them on your computer once they are downloaded.
9. Knowledge of basic operations of Microsoft Word and Microsoft PowerPoint.
10. Knowledge of how to view and adjust videos with Windows Media Player.

BlackBoard: The lecture AND lab of this course is completely online and is conducted through Blackboard. BlackBoard may be accessed at <https://southplainscollege.blackboard.com/webapps/login/>. For help concerning the use and features of BlackBoard you can access the help menu at the top of each BlackBoard page that you visit. For technical issues concerning BlackBoard, contact SPC BlackBoard Student Support at the Instructional Student Support at the Instructional Technology department at blackboard@southplainscollege.edu or 806 716-2180. Only contact them if you need assistance with login or a browser related questions. DO NOT contact them if your computer crashes, your internet connection fails, you have instructional questions for your instructor, etc. Please include your full names, course registered for with instructor and section noted, and the preferred way for them to contact you.

Labs/Experiments: You will perform a series of exercises for experiments from **BOTH** the South Plains College Lab Manual and the Carolina Distance Learning Lab Kit. Details and Instructions will be given on Blackboard for each

experiment. Follow these instructions carefully in order to be able to complete the experiment! Data Analysis in the lab manual (either SPC Lab Manual or Carolina Lab Manual) must be completed by the student. There will be an assignment on Blackboard for each Experiment that the student must complete for the lab grade. Should Technical Difficulties occur while you are doing a Lab Assignment, **TAKE A PICTURE OF THE SCREEN THAT IT GIVES YOU AND EMAIL THE PICTURE TO ME IMMEDIATELY!!** I cannot guarantee that I will reopen the Lab Assignment for you but I will take a look at it and then make a decision. Each experiment will have a due date! Do not miss the deadline because there is **NO LATE WORK ACCEPTED and NO MAKEUPS ALLOWED! A missed lab CANNOT be made up and will therefore be a 0.** ****The only exception will be if the student has been hospitalized. In that situation documentation from the hospital will be required. If you are hospitalized please contact the instructor: Katheryn Townsend at ktownsend@southplainscollege.edu, the nurse: DeEtte Edens, BSN, RN at 806-716-2376 or dedens@southplainscollege.edu, and Lynne Cleavinger, Dean of Students at 806-716-2380, Fax: 806-894-1038.**** The student is still responsible for collecting any material that was given during the Experiment in order to be prepared for questions on the Exam that come from the Experiments. At the end of the semester the Instructor will automatically drop the lowest lab grade for the student.

Experiment 0: Introduction to Laboratory Equipment – For this Experiment, the instructor will join students into teams of 3 or 4 and send email addresses (SPC Emails only) to each team member. Each team can decide how they want to coordinate and work together to complete Experiment 0. Meeting together in person may not be possible, therefore some teams may decide to do Zoom meetings and work through Experiment 0 together that way while other teams may decide to divide up the work and then email all the information to each other until the Experiment is complete or you may have an entirely different idea that works great, but that decision must be determined in each team. **EACH STUDENT IS STILL REQUIRED TO SUBMIT THEIR OWN EXPERIMENT 0 ASSIGNMENT ON BLACKBOARD!** The Lab Assignment for Experiment 0 is the only thing that needs to be submitted, nothing else needs to be turned in. This teamwork is **REQUIRED** for Experiment 0 and encouraged (but not required) for all other experiments.

PDF Format: Any documents that are to be submitted on Blackboard for a grade **MUST BE IN PDF format or they will not be accepted and will receive a zero!** There are plenty of apps on phones and lots of different software programs that can help you turn your pictures or scanned documents into PDFs! Please look into these ahead of time so you do not miss any deadlines! Google can help you find instructions on how to do this!

Online Assignment: This a **two** part assignment due close to the beginning of the semester and will count as a lab grade. The instructions are on Blackboard. **Part One** consists of questions in a Word document. You will need to open the document, TYPE your answers, save as a **PDF** and then submit the **PDF** on Blackboard in the **ONLINE ASSIGNMENT** folder using the Blackboard Assignment link. Any documents that are to be submitted on Blackboard for a grade **MUST BE IN PDF format or they will not be accepted and will receive a zero!** There are plenty of apps on phones and lots of different software programs that can help you turn your pictures or scanned documents into PDFs! Please look into these ahead of time so you do not miss any deadlines! Google can help you find instructions on how to do this! **Part Two** is to send me an email (ktownsend@southplainscollege.edu) from your South Plains College email (NOT BLACKBOARD EMAIL, YAHOO, GMAIL, ETC!) and just tell me a little about yourself, whatever you would like me to know. Each part is worth 50 points so make sure to do **BOTH** parts in order to get a 100. This assignment is to help me get to know you a little and make sure you can access documents on Blackboard and submit documents on Blackboard. **THERE ARE NO LATE ASSIGNMENTS ACCEPTED and NO MAKEUPS ALLOWED!!** ****The only exception will be if the student has been hospitalized. In that situation documentation from the hospital will be required. If you are hospitalized please contact the instructor: Katheryn Townsend at ktownsend@southplainscollege.edu, the nurse: DeEtte Edens, BSN, RN at 806-716-2376 or dedens@southplainscollege.edu, and Lynne Cleavinger, Dean of Students at 806-716-2380, Fax: 806-894-1038.****

Poster Projects: There will be TWO poster projects due this semester with the exact date being determined by the instructor. The materials needed for posters must be provided by the student and not the instructor of the course. **The topic of the posters may be any topic that was covered in lecture or lab during the semester.** These posters will each count as a lab grade. There is a POSTERS folder on Blackboard where you will find information about these Posters and instructions on where to upload upload and submit your poster, **IT MUST BE SAVED AND SUBMITTED AS A PDF.** Any documents that are to be submitted on Blackboard for a grade **MUST BE IN PDF format or they will not be accepted and will receive a zero!** There are plenty of apps on phones and lots of different software programs that can help you turn your pictures or scanned documents into PDFs! Please look into these ahead of time so you do not miss any deadlines! Google can help you find instructions on how to do this!

- **Poster #1:** Due around mid-semester. They may be done by hand or they may be digitally done or a combination. If done by hand this “poster” should be no larger than a 12x12inch scrapbook page. They may be just a regular sheet of paper (8.5 x 11inch) if you would like. Just be creative and informative. They will be submitted on Blackboard so if it is done by hand the student will either need to scan the poster or take a picture of it to submit it, **IT MUST BE SAVED AND SUBMITTED AS A PDF.**
- **Poster #2:** Due at the end of the semester. They may be done by hand or they may be digitally done or a combination. If done by hand this “poster” should be no larger than a 12x12inch scrapbook page. They may be just a regular sheet of paper (8.5 x 11inch) if you would like. Just be creative and informative. They will be submitted on Blackboard so if it is done by hand the student will either need to scan the poster or take a picture of it to submit it, **IT MUST BE SAVED AND SUBMITTED AS A PDF.** This poster CANNOT cover the same topic as Poster #1.
- More details may be provided by the instructor on Blackboard in the POSTERS folder.
- **NO Late Posters will be accepted!! As always, there is NO LATE WORK ACCEPTED and NO MAKEUPS ALLOWED!!** **The only exception will be if the student has been hospitalized. In that situation documentation from the hospital will be required. If you are hospitalized please contact the instructor: **Katheryn Townsend at ktownsend@southplainscollege.edu, the nurse: DeEtte Edens, BSN, RN at 806-716-2376 or dedens@southplainscollege.edu, and Lynne Cleavinger, Dean of Students at 806-716-2380, Fax: 806-894-1038.****

Exams:

- **Major Exams:** There will be five major exams. Each exam is worth 100 points. Questions will be based on the material covered in lecture and lab. Each Exam will contain a portion of new material and a portion of comprehensive material. **A missed exam will receive a score of zero. There will be NO make-ups. As always, there is NO LATE WORK ACCEPTED and NO MAKEUPS ALLOWED!!** **The only exception will be if the student has been hospitalized. In that situation documentation from the hospital will be required. If you are hospitalized please contact the instructor: **Katheryn Townsend at ktownsend@southplainscollege.edu, the nurse: DeEtte Edens, BSN, RN at 806-716-2376 or dedens@southplainscollege.edu, and Lynne Cleavinger, Dean of Students at 806-716-2380, Fax: 806-894-1038.****
- Exams are 33 – 50 questions each.
- The Exams will have a specific window of availability BUT ONCE YOU BEGIN THE EXAM:
 - You will have 1 (ONE) attempt to take the Exam, meaning, you cannot leave the Exam or Blackboard and then come back to it, once you open the Exam you must finish it!
 - You will have 2 hours to take the Exam, make sure to have your calculator and periodic table ready and you may want some scratch paper nearby as well!
 - **If you begin the Exam with less than 2 hours until the deadline your time will be adjusted. Exams will be automatically submitted by Blackboard at the deadline time.**
 - You will be allowed to use your notes on the Exams but remember, you will be limited on time so have your notes organized and ready to go!

- Should technical difficulties occur while you are taking the Exam, TAKE A PICTURE OF THE SCREEN THAT IT GIVES YOU AND EMAIL THE PICTURE TO ME **IMMEDIATELY!!** I cannot guarantee that I can respond to you immediately but everything will be timestamped so I can go back and see what happened and possibly (**NOT GUARANTEED**) restart the Exam for you.
 - Be sure to use the Notes Outlines, Chapter Worksheets and Exam Practice Problems to help study for the Exams.
- **Final Exam: THE FINAL EXAM IS REQUIRED FOR ALL STUDENTS.** The final exam is fully comprehensive, has 50 multiple choice questions and is worth 100 points. The final must be taken during the scheduled South Plains College final exams week and by the scheduled day on the syllabus. **NO** make up is available for the final since it is scheduled at the very end of the term. **A missed exam will receive a score of zero. There will be NO make-ups. As always, there is NO LATE WORK ACCEPTED and NO MAKEUPS ALLOWED!!** ****The only exception will be if the student has been hospitalized. In that situation documentation from the hospital will be required.** If you are hospitalized please contact the instructor: **Katheryn Townsend at ktownsend@southplainscollege.edu, the nurse: DeEtte Edens, BSN, RN at 806-716-2376 or dedens@southplainscollege.edu, and Lynne Cleavinger, Dean of Students at 806-716-2380, Fax: 806-894-1038.****
 - **DROPPING AN EXAM** – At the end of the semester the instructor will drop the (one) lowest Exam grade. If a student reaches the end of the semester and is happy with their average they may choose to not take the Final Exam in which it will be graded as a zero (0) but then it would be dropped and no longer affect their average.
 - **Cheating** – If a student is caught cheating (see the full definition of cheating in this syllabus and in the SPC catalog under Academic Integrity) on any of the Exams they will receive a 0 for that Exam and that 0 will NOT BE DROPPED!
 - Should technical difficulties occur while you are taking the Final Exam, TAKE A PICTURE OF THE SCREEN THAT IT GIVES YOU AND EMAIL THE PICTURE TO ME **IMMEDIATELY!!** I cannot guarantee that I can respond to you immediately but everything will be timestamped so I can go back and see what happened and possibly (**NOT GUARANTEED**) restart the Exam for you.

Computer Problems or BlackBoard or SPC Server Problems: If a student's internet connection goes down, or a student's computer crashes or otherwise becomes inoperable for BlackBoard, it is the responsibility of the student to have their internet connection and/or computer repaired as soon as possible in order to avoid getting behind in the class or missing due dates. While the computer and/or internet connection is being repaired, the student should seek an alternate technology resources. **Internet problems and/or the crash or inoperability of a computer will not be an acceptable excuse for being late with assignments or exams. PLAN AHEAD!!** It is the responsibility of the student to have a backup plan in place. If BlackBoard or SPC server goes down, the appropriate time extensions will be determined and announced by the instructor.

Logging into the Course: You are not allowed to give you 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.

Copyright Notice: All material presented by the instructor in the course 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 course (ex. Class information sheet, course orientation, and chapter module PowerPoint 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 material may not be altered or modified in any way. The downloaded material may not be distributed in any way.

E-Mail: When you have questions, problems, or comments, you can send an e-mail to ktownsend@southplainscollege.edu. **Please DO NOT use Blackboard messages – they tend to get lost!! Please use SPC Email only!** I will respond to your message within 48 hours if I receive your e-mail between 8:00 AM Monday and 3:45PM Thursday (excluding holidays and school breaks). E-mails received during the time period lasting from 3:45PM Thursday to 8:00 AM Monday of the following week will receive a response within 48 hours of that Monday (excluding holidays and school breaks). Emails received during holidays or school breaks will receive a response within 48 hours from when SPC resumes normal school hours.

Expectations when Corresponding: Please be polite, courteous, and respectful when using BlackBoard 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 any 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 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, messages, discussion forums or unofficial web pages are not officially sponsored by the instructor of 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.

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:**
Upon successful completion of this course, students will:
 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.

Student Learning Outcomes Assessment: Three questions from Exams will be used to assess student learning outcomes.

Course Evaluation:

Exams 70%

Labs 30%

Grades will be assigned on the following basis:

90 – 100	A
80 – 89	B
70 – 79	C
60 – 69	D
< 60	F

- Grades are recorded in the Blackboard Gradebook so that you can view them at any time. Keep in mind that as due dates pass and zeros are entered into the gradebook for missing work, averages can change drastically and quickly!

Attendance Policy: Students are expected to login frequently in order to be successful in this course. Students who enroll in a course but have “Never Attended” by not logging into this course on Blackboard by the official census date, as reported by the instructor, will be administratively dropped by the Office of Admissions and Records. Once we are past the official census date I do not drop students for non-attendance/activity. It is the student’s responsibility to initiate the drop process if you decide to not complete the course. All missing work will receive zeros in the gradebook. If a student does not drop the course then the grade that the student has at the end of the semester is what will be submitted to Texan Connect. This may be an ‘F’ depending on grades/missing work/zeros, etc. Regular, consistent participation is required for this course. Any activity missed, regardless of cause, reduces the opportunity for learning and may adversely affect a student’s achievement.

Tutor: Tutoring (both face to face and online) might be available during the semester. Please check the South Plains College Tutoring website for more information.

Plagiarism and Cheating: Students are expected to do their own work on all assignments. Failure to comply with this policy will result in an F for the assignment and can result in an F for the course if circumstances warrant. If a

student is caught cheating (see the full definition of cheating in this syllabus and in the SPC catalog under Academic Integrity) on any of the Exams they will receive a 0 for that Exam and that 0 will NOT BE DROPPED!

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.

Statements regarding diversity, disabilities, non-discrimination, Title V Pregnancy Accommodations, and Campus Concealed Carry are located at: <https://www.southplainscollege.edu/syllabusstatements/>

EXAM OVERVIEW

Exam 1

Lab Safety

Chapter 1: Chemistry: The Study of Change

Learning Objective Met: Lecture #1, #2, #13

Chapter 2: Atoms, Molecules, and Ions

Learning Objective Met: Lecture #2, #3, #5, #7, #9

Carolina Experiment: Laboratory Safety

Learning Objectives Met: all Lab LOs

SPC Experiment 0: Introduction to Lab Equipment

Learning Objectives Met: all Lab LOs

SPC Experiment 1: Measurements

Learning Objectives Met: Lecture #1, #13, all Lab LOs

Carolina Experiment: Density

Learning Objectives Met: Lecture #1, #13, all Lab LOs

SPC Experiment 13: Determining Chemical Formulas and Names

Learning Objectives Met: Lecture #2, #7, #8, #9

Exam 2

Chapter 3: Mass Relationships in Chemical Reactions

Learning Objective Met: Lecture #6, #7, #8, #10

Chapter 4: Reactions in Aqueous Solution

Learning Objective Met: Lecture #7, #8, #10, #12

SPC Experiment 4: Determining the Mole Ratios in a Chemical Reaction

Learning Objectives Met: Lecture #7, #8, #12, all Lab LOs

Carolina Experiment: Single Replacement Reaction Stoichiometry and Percent Yield

Learning Objectives Met: Lecture #2, #6, all Lab LOs

Carolina Experiment: Investigating Chemical Reactions

Learning Objectives Met: Lecture #2, #10, #12, all Lab LOs

Carolina Experiment: Determination of Acetic Acid Concentration in Vinegar Using Titration

Learning Objectives Met: Lecture #10, all Lab LOs

SPC Experiment 14: Precipitation Reactions

Learning Objectives Met: Lecture #7, #8, #9, #10

Exam 3

Chapter 5: Gases

Learning Objective Met: Lecture #11

Chapter 6: Thermochemistry

Learning Objective Met: Lecture #10, #12

SPC Experiment 7: Boyle's Law: Pressure-Volume Relationships in Gases

Learning Objectives Met: Lecture #11, all Lab LOs

Carolina Experiment: Determination of Ideal Gas Law Constant

Learning Objectives Met: Lecture #11, all Lab LOs

Carolina Experiment: The Fundamentals of Calorimetry

Learning Objectives Met: Lecture #12, all Lab LOs

Exam 4

Chapter 7: Quantum Theory and the Electronic Structure of Atoms

Learning Objective Met: Lecture #3, #5

Chapter 8: Periodic Relationships Among the Elements*Learning Objective Met: Lecture #4***SPC Experiment 11B:** Atomic Emission Spectroscopy*Learning Objectives Met: Lecture #3, all Lab LOs***Exam 5****Chapter 9:** Chemical Bonding I: Basic Concepts*Learning Objective Met: Lecture #5***Chapter 10:** Chemical Bonding II: Molecular Geometry and Hybridization of Atomic Orbitals*Learning Objective Met: Lecture #5***Carolina Experiment:** Introduction to Molecules: A Molecular Bonding and Shapes Investigation*Learning Objectives Met: Lecture #3, all Lab LOs***SPC Experiment 16:** Models (VSEPR)*Learning Objective Met: Lecture #3, all Lab LOs***Final Exam**

Comprehensive

CHEM 1411 ONLINE SCHEDULE

We will follow this schedule as closely as possible. Any changes will be announced as we go!

All details/instructions for assignments and Exams are in the syllabus and on Blackboard.

WEEK:	RECOMMENDED LECTURE PACE	WHAT'S DUE THIS WEEK: (CENTRAL TIME ZONE)
WEEK 1: July 6 - 12	Complete Online Assignment (Submit Part 1, Email Part 2) Read through Lab Safety PowerPoint Cover Chapters 1 & 2 (notes, outlines and worksheets) Complete Exam 1 Practice Problems Start Chapter 3 (notes, outline, worksheet) Begin Exam 2 Practice Problems	ONLINE ASSIGNMENT (BOTH PARTS) - due by Thursday July 9, 2026 by 11:00AM, (turn in using the link in the WEEK 1 folder on Blackboard) EXAM 1 - opens on Thursday July 9, 2026 at 11:00AM and closes on Friday July 10, 2026 at 11:00AM, (found in Exam 1 Unit folder on Blackboard)
WEEK 2: July 13 - 19	Finish Chapter 3 (notes, outline and worksheet) Cover all of Chapter 4 (notes, outline, and worksheet) Finish Exam 2 Practice Problems Start Chapter 5 (notes, outline, and worksheet) Start Exam 3 Practice Problems	Set 1 AND Set 2 Experiments due by Thursday July 16, 2026 by 11:00AM, (all submitted in their respective folders on Blackboard, see Schedule for specific labs) EXAM 2 - opens on Thursday July 16, 2026 at 11:00AM and closes on Friday July 17, 2026 at 11:00AM, (found in Exam 2 Unit folder on Blackboard)
WEEK 3: July 20 - 26	Finish Chapter 5 (notes, outline, worksheet) Cover all of Chapter 6 (notes, outline, worksheet) Finish Exam 3 Practice Problems Start Chapter 7 (notes, outline, worksheet) Start Exam 4 Practice Problems	Set 3 Experiments due by Thursday July 23, 2026 by 11:00AM, (all submitted in their respective folders on Blackboard, see Schedule for specific labs) POSTER #1 - due by Thursday July 23, 2026 by 11:00AM, (turn in using the link in on Blackboard, found under weekly folders) EXAM 3 - opens on Thursday July 23, 2026 at 11:00AM and closes on Friday July 24, 2026 at 11:00AM, (found in the Exam 3 Unit folder on Blackboard)
WEEK 4: July 27 - August 2	Finish Chapter 7 (notes, outline, worksheet) Cover all of Chapter 8 (notes, outline, worksheet) Finish Exam 4 Practice Problems Start Chapters 9&10 (notes, outline, worksheet) Start Exam 5 Practice Problems	Set 4 Experiments due by Thursday July 30, 2026 by 11:00AM, (all submitted in their respective folders on Blackboard, see Schedule for specific labs) EXAM 4 - opens on Thursday July 30, 2026 at 11:00AM and closes on Friday July 31, 2026 at 11:00AM, (found in the Exam 4 Unit folder on Blackboard)
WEEK 5: August 3 - 6	Finish Chapters 9&10 (notes, outline, worksheet) Finish Exam 5 Practice Problems Review for Final Exam	Set 5 Experiments due by Tuesday August 4, 2026 by 11:00AM, (all submitted in their respective folders on Blackboard, see Schedule for specific labs) POSTER #2 - due by Tuesday August 4, 2026 by 11:00AM, (turn in using the link on Blackboard, found under weekly folders) EXAM 5 - opens Tuesday August 4, 2026 at 11:00AM and closes Wednesday August 5, 2026 at 11:00AM, (found in Exam 5 Unit folder on Blackboard) FINAL EXAM - opens on Wednesday August 5, 2026 at 11:00AM and closes on Thursday August 6, 2026 at 11:00AM, (found in Final Exam Unit folder on Blackboard)
FINAL GRADES WILL BE POSTED TO TEXAN CONNECT BY 10:00AM ON AUGUST 7, 2026		

Summer Online Lab Schedule

Specific Details for each lab are found in the [LABS folder under Course Content](#) on Blackboard.

****Labs are grouped together into sets according to how they relate to the lecture Exams so they can best supplement the lecture notes. Each set of labs will have a specific due date but do not wait until that due date to try to complete all of the labs or you will not have time to submit them and there is NO LATE WORK ACCEPTED and NO MAKEUPS ALLOWED!**

****It is recommended that Set 1 Experiments be completed in the first week of summer session but their due date has been set for Week 2 to allow for shipping of the Carolina Lab Kit. This does mean that the Week 2 deadline has 10 Experiments due! DO NOT PROCRASTINATE - you will not have enough time to get them all done if you wait until the last minute!****

****DO NOT MISS DUE DATES! There is NO LATE WORK ACCEPTED and NO MAKEUPS ALLOWED!**
Missing labs will be zeros once a due date has passed.

****SPC Experiments require the South Plains College CHEM 1411 Lab Manual (found in the Labs/Experiments folder on Blackboard)**

****Carolina Experiments require the Carolina Lab Kit, instructions (lab manual) is found in the Experiment's folder on Blackboard**

Corresponding Exam:	Due Date (CENTRAL TIME ZONE)	Experiments
Set 1 (Related to Exam 1)	Thursday July 16, 2026 by 11:00AM	- Carolina Experiment: Laboratory Safety <i>*Lab kit not needed, can finish lab while waiting for kit to arrive*</i> - SPC Experiment 0: Introduction to Lab Equipment <i>*Teamwork required, info on Blackboard*</i> - SPC Experiment 1: Measurements - Carolina Experiment: Density - SPC Experiment 13: Determining Chemical Formulas and Names
Set 2 (Related to Exam 2)	Thursday July 16, 2026 by 11:00AM	- SPC Experiment 4: Determining the Mole Ratios in a Chemical Reaction - Carolina Experiment: Single Replacement Reaction Stoichiometry and Percent Yield - Carolina Experiment: Investigating Chemical Reactions - Carolina Experiment: Determination of Acetic Acid Concentration in Vinegar using Titration - SPC Experiment 14: Precipitation Reactions
Set 3 (Related to Exam 3)	Thursday July 23, 2026 by 11:00AM	- SPC Experiment 7: Boyle's Law - Carolina Experiment: Determination of Ideal Gas Law Constant - Carolina Experiment: The Fundamentals of Calorimetry
Set 4 (Related to Exam 4)	Thursday July 30, 2026 by 11:00AM	SPC Experiment 11B: Atomic Emission Spectroscopy
Set 5 (Related to Exam 5)	Tuesday August 4, 2026 by 11:00AM	- Carolina Experiment: Introduction to Molecules: A Molecular Bonding and Shape Investigation - SPC Experiment 16: Models (VSEPR)