

South Plains College
Common Course Syllabus: CHEM 1411
Revised Fall 2022

Department: Science

Discipline: Chemistry

Course Number: CHEM 1411

Course Title: General Chemistry I

Instructor: Katheryn Townsend

Office: Science 66

Phone: 806-716-2310

Email: ktownsend@southplainscollege.edu

Office Hours: MW 10:45 – 11:45AM

TR 9:30 – 11:30AM

Fridays 9:00 – 11:00AM (check for availability)

ALWAYS by appointment if necessary

Available Formats: Conventional Face-to-Face

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 a normal face-to-face class. All lectures and all labs will be in person. All assignments, worksheets, and exams etc. must be completed and submitted by their specific deadlines. This course may be moved online or converted to a hybrid format if South Plains College administration or the instructor of the course deems it necessary.

Textbook: NO TEXTBOOK REQUIRED

Supplies:

- **To purchase:**

- **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.

- **Goggles or Safety Glasses for lab**
- **Scantrons – REQUIRED, Apperson form 29240, will need 5 or 6 total**
 - Available at the Bookstore counter, they are not on the shelves
- **May need extra materials to prepare 2 posters**
- **Obtained from Blackboard:**
 - **Lab Manual – REQUIRED, CHEM 1411 Lab Manual**
 - **Power Point Notes, Outlines, etc. – REQUIRED**
 - On Blackboard, each Chapter will have a folder in the Chapter Notes tab. Here you will find Power Point Notes, Outlines and other resources.
 - **Chapter Worksheets – REQUIRED**
 - These are worksheets designed to help you apply the material from the chapter and can be used to study for exams, we will do these in class when time allows.
 - **Exam Practice Problems – Optional but highly recommended**
 - These are problems that I have designed for further practice and study before every exam. Finished Exam Practice Problems can be turned in the day of the Exam, at the time of the Exam for 5 bonus points. These Practice Problems will only be accepted the day of the Exam.
 - **Periodic Table – REQUIRED**
 - **Labs/Experiments – REQUIRED**
 - Experiments will be performed in the lab room during a designated time. Students will then complete a Lab Worksheet (provided by the instructor) and turn it in to the instructor for a Lab grade.

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: While both the lecture and lab of this course are fully face to face, the instructor will be using Blackboard to post many resources, announcements and your gradebook. 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 experiments and exercises **in the lab**, which are designed to reinforce the lecture material and give you hands-on experience of a chemical nature. Attending and performing these experiments in the **lab face-to-face is a REQUIRED** part of this class. Missing lab can drastically reduce the opportunity for learning and may adversely affect a student's achievement. Each lab will have a data analysis and question section in the lab manual which must be completed. The instructor will provide a Lab Worksheet to each lab group for them to complete and turn in for their lab grade. Labs count 30% of your overall class average so they are a significant part of your grade. At the end of the semester the Instructor will automatically drop the lowest lab grade for the student. If a lab is missed the student is still responsible for collecting any material that was given during the Experiment in order to prepare for questions on the Exam that come from the Experiments. **A student will NOT be able to enter the lab without the proper attire (closed toed shoes, long pants, shirts with sleeves, long hair pulled back, and safety goggles). A student that is not dressed appropriately for lab will not be able to perform the experiment and therefore will receive a 0 for that Lab.**

- **Lab Absence/Make-Ups:** If a lab is missed it can only be made up if the absence is due to the student's hospitalization, an official SPC school sponsored trip/activity or with a Dr's requirement **AND** proper documentation is received by the instructor. Proper documentation must be received within **2 days** of the Lab Absence and the lab make-up must be done within **ONE WEEK** of the missed lab. After the one week deadline, labs can no longer be made up and will be zeros. Documentation includes but is not limited to: a Dr's note with dates indicating length of absence, hospitalization check-in and/or check-out paper with dates of stay, an email from SPC's school nurse (DeEtte Edens), or an email/note from the SPC advisor/sponsor/coach/administrator in charge of the SPC sponsored trip/activity. When documentation is received the instructor will give the student instructions on making up the lab but it still has a **ONE WEEK** deadline from the date of the missed lab. ****It is the student's responsibility to contact the instructor regarding the absence, make sure appropriate documentation has been received by the instructor and to ask for directions regarding the makeup of the lab.****

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. 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 with check-in/check-out dates from the hospital will be required. If you are hospitalized please contact the instructor: Kathryn 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 that shows poster examples!

- **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 physically turned into the instructor by the deadline.

- **Poster #2:** Due at the end of the semester. They may be done by hand or they may be digitally done or a combination. This poster should be at least the standard poster size, 22inches by 28inches, it may be larger but not smaller. Just be creative and informative. They will be physically turned in to the instructor by the deadline. 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 with check-in/check-out dates 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. They will all be taken in person in class. Each exam is worth 100 points, with the possibility of bonus 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. Reminder: Exam Practice Problems can be turned in at the time of the Exam for 5 bonus points. Scantrons will be needed for the Exams. Calculators will have to have their memory cleared and the screen shown to the instructor before you are allowed to begin the Exam. The student is responsible for knowing how to clear their calculator's memory. **A missed exam will receive a score of zero. There will be NO MAKEUPS! 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 with check-in/check-out dates 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.****
- **Final Exam:** The Final Exam is **REQUIRED for ALL STUDENTS!** The final exam is fully comprehensive and is worth 100 points. The final must be taken on the scheduled day. **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 with check-in/check-out dates 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!

Notecards: ONE small 3inchx5inch notecard will be allowed on Exams 2, 3, 4, 5, and the Final Exam. Both sides of the notecard may be used; it may be handwritten or typed. The notecard may contain formulas, definitions, and constants or any other information allowed by the instructor as announced in class but CANNOT contain any worked examples from class notes, chapter worksheets, practice problems or any example problems found in outside resources. For each unauthorized example written on the notecard or if the wrong size notecard is used, points will be deducted from the Exam. The number of points deducted will be determined by the number of

questions on the exam and the amount of unauthorized material on the notecard. Any unauthorized material on the notecard is classified as cheating, therefore the cheating policies in this syllabus will also be followed.

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. There are computer labs on both the Levelland and Reese campuses. **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: 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 on any of the Major Exams they will receive a 0 for that Exam AND be required to take the Final Exam regardless of absences or average. In the case of cheating, the Final Exam will NOT replace ANY Exam score.

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 difference 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, Lubbock Centers (located at the Lubbock Downtown Center) 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 Health and Wellness Center. 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 Health and Wellness Center at 806-716-2529 or [email dburleson@southplainscollege.edu](mailto:dburleson@southplainscollege.edu) for assistance.

Campus Concealed Carry: Texas Senate Bill - 11 (Government Code 411.2031, et al.) authorizes the carrying of a concealed handgun in South Plains College buildings only by persons who have been issued and are in possession of a Texas License to Carry a Handgun. Qualified law enforcement officers or those who are otherwise authorized to carry a concealed handgun in the State of Texas are also permitted to do so. Pursuant to Penal Code (PC) 46.035 and South Plains College policy, license holders may not carry a concealed handgun in restricted locations. For a list of locations and Frequently Asked Questions, please refer to the Campus Carry page at: <http://www.southplainscollege.edu/campuscarry.php>

Pursuant to PC 46.035, the open carrying of handguns is prohibited on all South Plains College campuses. Report violations to the College Police Department at 806-716-2396 or 9-1-1.

COVID-19 Statement: If you are experiencing any of the following symptoms, please do not attend class and either seek medical attention or test 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. Proof of a positive test is required. A home test is sufficient but students must submit a photo of the positive result. The date of test must be written on the test result and an ID included in the photo. If tested elsewhere (clinic, pharmacy, etc.), please submit a copy of the doctor's note or email notification. Results may be emailed to DeEtte Edens, BSN, RN at dedens@southplainscollege.edu.

A student is clear to return to class without further assessment from DeEtte Edens, BSN, RN if they have completed the 5-day isolation period, symptoms have improved, and they are without fever for 24 hours without the use of fever-reducing medication.

Students must communicate with DeEtte Edens, BSN, RN prior to their return date if still symptomatic at the end of the 5-day isolation.

If you test positive for COVID-19: Contact the instructor AND DeEtte Edens, BSN, RN at 806-716-2376 or dedens@southplainscollege.edu for guidance.

If you are hospitalized due to COVID-19: Please contact the instructor: Katheryn Townsend at ktownsend@southplainscolleg.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.

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***Experiment 0:** Introduction to Lab Equipment*Learning Objectives Met: all Lab Los***Experiment 1:** Measurements*Learning Objectives Met: Lecture #1, #13, all Lab Los***Experiment 2:** Density*Learning Objectives Met: Lecture #1, #13, all Lab Los***Experiment 13:** Determining Chemical Formulas and Names*Learning Objectives Met: Lecture #2, #7, #8, #9***Experiment 3:** Atoms and Molecules*Learning Objectives Met: Lecture #3, #9, all Lab Los***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***Experiment 4:** Determining the Mole Ratios in a Chemical Reaction*Learning Objectives Met: Lecture #7, #8, #12, all Lab Los***Experiment 5:** Hydrates*Learning Objectives Met: Lecture #2, #7, #12, all Lab Los***Experiment 14:** Precipitation Reactions*Learning Objectives Met: Lecture #7, #8, #9, #10***Experiment 6:** Determine the Molar Mass by Titration*Learning Objectives Met: Lecture #6, #7, #8, all Lab Los***Exam 3****Chapter 5:** Gases*Learning Objective Met: Lecture #11***Chapter 6:** Thermochemistry*Learning Objective Met: Lecture #10, #12***Experiment 7:** Boyle's Law: Pressure-Volume Relationships in Gases*Learning Objectives Met: Lecture #11, all Lab Los***Experiment 8:** Pressure-Temperature Relationship in Gases*Learning Objectives Met: Lecture #11, all Lab Los***Experiment 9:** Calorimetry of Metals*Learning Objectives Met: Lecture #12, all Lab Los***Experiment 10:** Endothermic and Exothermic Reactions*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***Experiment 11B:** Atomic Emission Spectroscopy*Learning Objectives Met: 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***Experiment 16:** Models (VSEPR)*Learning Objective Met: Lecture #3, all Lab Los***Final Exam**

Comprehensive

COURSE SYLLABUS

We will follow this schedule as closely as possible;
any changes will be announced as we go along.

| Week | Day | First Hour | Second Hour |
|------|------------------------|--------------------------|---------------------------------------|
| 1 | Monday August 29 | Introduction | Lab Safety |
| | Wednesday August 31 | Chapter 1 | Chapter 1 |
| 2 | 5-Sep | LABOR DAY HOLIDAY | |
| | 7-Sep | Chapter 1 | Experiment 0 |
| 3 | 12-Sep | Chapter 1 | Chapter 1 WS |
| | 14-Sep | Chapter 2 | Experiment 1 |
| 4 | 19-Sep | Chapter 2 | Experiment 2 |
| | 21-Sep | Chapter 2/ 2WS | Exp. 3/ Exp. 13 |
| 5 | 26-Sep | EXAM 1 | |
| | 28-Sep | Chapter 3 | Chapter 3 |
| 6 | 3-Oct | Chapter 3 | Experiment 5 |
| | 5-Oct | Chapter 3 WS | Experiment 4 |
| 7 | 10-Oct | Chapter 4 | Experiment 14 |
| | 12-Oct | Chapter 4 | Chapter 4 |
| 8 | 17-Oct | Chapter 4 | Chapter 4 |
| | 19-Oct | Chapter 4WS | Experiment 6 |
| 9 | 24-Oct | EXAM 2 | |
| | 26-Oct | Chapter 5 | **POSTER #1 DUE** Chapter 5 |
| 10 | 31-Oct | Chapter 5 | Experiment 7 |
| | 2-Nov | Chapter 6 | Exp. 8/ Chapter 5WS |
| 11 | 7-Nov | Chapter 6 | Experiment 10 |
| | 9-Nov | Chpt. 6/ Chapter 6 WS | Experiment 9 |

COURSE SYLLABUS

We will follow this schedule as closely as possible;
any changes will be announced as we go along.

| | | | |
|----|--------------------------|--|--------------------------|
| 12 | 14-Nov | EXAM 3 | |
| | 16-Nov | Chapter 7 | Chaper 7 |
| | | | |
| 13 | 21-Nov | Chapter 7 | Exp. 11B/ Chapter 7WS |
| | 23-Nov | NO SCHOOL | THANKSGIVING |
| | | | |
| 14 | 28-Nov | Chapter 8 | Chapter 8/8WS |
| | 30-Nov | EXAM 4 | |
| | | | |
| 15 | 5-Dec | Chapters 9/10 | Chpts 9/10WS /Exp. 16 |
| | 7-Dec | EXAM 5 | **POSTER #2 DUE** |
| | | | |
| 16 | Monday 12-Dec | FINAL EXAM Section 001: 8:00 - 10:00AM Section 003: 1:00 - 3:00PM | |