



## Course Syllabus

### **CHEM 1411 –General Chemistry I**

**Catalog 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 lecture; introduction of the scientific method, experimental design, data collection and analysis, and preparation of laboratory reports.

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

**Semester Credit Hours:** 4

**Lecture Hours per Week:** 3

**Lab Hours per Week:** 3

**Extended hours:** --Additional study is required outside posted class times.

**Contact Hours per Semester:** 112

**State Approval Code:** 40.0501.54 03

**Class section meeting time:** 1411.101: T/R 10:50 am – 12:05 pm; 1411L.001:T 1:40pm – 5:00pm;  
1411L.002: R 1:40pm – 5:00pm

#### **Core Components and Related College Student Learning Outcomes**

This course counts as part of the academic requirements of the Panola College Core Curriculum and an Associate of Arts or Associate of Science degree.  Yes  No: If no, skip to Instructional Goals.

The items below marked with an X reflect the state-mandated outcomes for this course **IF this is a CORE course:**

- Critical Thinking Skills – to include creative thinking, innovation, inquiry and analysis, evaluation and syntheses of information
  - CT1: Generate and communicate ideas by combining, changing, or reapplying existing information
  - CT2: Gather and assess information relevant to a question
  - CT3: Analyze, evaluate, and synthesize information
- Communication Skills – to include effective development, interpretation, and expression of ideas through written, oral, and visual communication
  - CS1: Develop, interpret, and express ideas through written communication
  - CS2: Develop, interpret, and express ideas through oral communication
  - CS3: Develop, interpret, and express ideas through visual communication

- Empirical and Quantitative Skills – to include the manipulation and analysis of numerical data or observable facts resulting in informed conclusions
  - EQS1: Manipulate and analyze numerical data and arrive at an informed conclusion
  - EQS2: Manipulate and analyze observable facts and arrive at an informed conclusion
- Teamwork – to include the ability to consider different points of view and to work effectively with others to support a shared purpose or goal
  - TW1: Integrate different viewpoints as a member of a team
  - TW2: Work with others to support and accomplish a shared goal
- Personal Responsibility – to include the ability to connect choices, actions, and consequences to ethical decision-making
  - PR1: Evaluate choices and actions and relate consequences to decision-making
- Social Responsibility – to include intercultural competence, knowledge of civic responsibility, and the ability to engage effectively in regional, national, and global communities
  - SR1: Demonstrate intercultural competence
  - SR2: Identify civic responsibility
  - SR3: Engage in regional, national, and global communities

**Instructional Goals and Purposes:**

The purpose of this course is to provide the first semester of a two semester course in chemistry for science, pre-engineering, pre-professional (pre-med, pre-dental, pre-pharmacy, etc.) majors and any student who would like a general knowledge of chemistry. The course includes mastery of topics in measurement, dimensional analysis, classification of matter, chemical structure, chemical formula and equation writing, stoichiometry, the First Law of Thermodynamics, periodicity, bonding theories, liquids, solids, intermolecular forces, and crystalline solids. This first semester covers the first twelve chapters of the text.

Chemistry 1411 has a required laboratory component that forms an important portion of this study. Experiment results will be recorded in a bound lab notebook. A typed report will be submitted to the instructor.

Instructional goals: (that will be assessed)

1. Understand and be able to explain the general principles, laws, and theories of chemistry that are discussed and presented throughout the semester
2. Use critical thinking and logic in the solution of problems
3. Apply learned chemistry skills to new situations
4. Demonstrate an understanding of chemistry through technological advancement
5. Apply chemical principles in the laboratory setting

Instructional goals: (not assessed)

1. Develop independent and cooperative learning skills
2. Recognize and acquire attitudes that are characteristic of the successful worker regardless of the major field of study
3. Develop an awareness of the value of chemistry in our daily living

**Learning Outcomes: [from the ACGM catalog]**

After studying all materials and resources presented in the course, the student will be able to:

**Lecture component:**

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.

**Laboratory component:**

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 Content:**

A general description of lecture/discussion topics included in this course are listed in the Learning Outcomes section of this syllabus.

Students in all sections of this course will learn the following content:

1. Define: chemistry, chemist, matter, mass, and energy.
2. Distinguish between kinetic energy and potential energy; give several examples of each.

3. List the branches of chemistry and tell what is included in each.
4. a. State the Law of Conservation of Mass  
b. State the Law of Conservation of Energy.  
c. Describe a combined theory of mass-energy conversion.
5. Name and characterize the three states of matter.
6. Identify properties and changes of matter as physical or chemical.
7. Define: substance and mixture; classify a sample of matter as a substance or a mixture.
8. Define: atom and molecule; give examples of each.
9. Show how the terms experiment, hypothesis, theory, and law fit into the scientific method.
10. Perform the objectives of the unit on the metric system and SI units after practicing on the exercises of the unit.
11. Define: specific gravity and density; solve problems related to specific gravity and density.
12. Define: temperature and heat.
13. Convert between Fahrenheit, Celsius, and Kelvin temperature scales.
14. Give the freezing temperature of water, the boiling point of water, and the lowest possible temperature for the Celsius and Kelvin temperature scales.
15. Define: joule, calorie, BTU, heat capacity, and specific heat; write an equation relating H, M, C, and T, where H is heat in calories, M is mass in grams, C is specific heat in cal/g- C, and T is temperature change in C; solve problems relating to calories, specific heat and calorimetry.
16. Distinguish between the terms symbol, formula, and equation.
17. Distinguish between molecular formula and empirical formula; if given the molecular formula of a compound, stipulate its simplest formula.
  - a. Define: ion, polyatomic ion, isotope.
  - b. Write symbols for common elements and write the names of common elements given their symbols; include simple compounds.
18. Write symbols and correct charges for polyatomic ions.
19. State the definitions of atomic mass and moles of atoms (gram atoms).
20. Calculate the grams of an element represented by a specific number of moles of the element; and the number of moles of atoms (gram atoms) represented by a specified mass of an element.
21. Define molar mass and mole.
22. State what Avogadro's number represents; give the numerical value of Avogadro's number; define mole of atoms in two different ways.

23. Using Avogadro's number, determine the absolute mass of a single atom from its atomic mass; determine the atomic mass of an element from the mass of a single atom of an element; determine the molar mass of a substance from the mass of a single molecule; determine the number of atoms present in a specified mass of an element; determine the number of molecules present in a given mass of a substance.
24. Given the formula of a compound, calculate the molar mass (formula mass) of the compound.
25. Given the formula of a compound or its molar mass, calculate the number of moles represented by a specified mass of the compound; and conversely, the number of grams of a compound represented by a given number of moles of the compound.
26. Given the formula of a compound, determine the per cent of each element present in the compound.
27. State the law of constant composition (definite proportions).
28. Given the percentage composition of a compound, determine the empirical formula of the compound; given also the correct molecular mass of the compound, determine the molecular formula of that compound.
29. Write correct equations for simple reactions, when the reactants and products and their symbols or formulas are known.
30. Balance simple equations by inspection and trial and error.
31. Define and give examples of exothermic and endothermic processes.
32. State three items of information which can be obtained from a correct and balanced equation; state four items of information which an equation does not reveal. Given a correct equation, write the mole relationships that exist between each of the substances shown in the equation; use these mole relationships to solve mass-mass problems.
33. Convert from mass of a substance to moles of a substance and convert from moles of a substance to mass of a substance.
34. Determine the percent of any or all components in a mixture or compound.
35. Using  $D = m/V$
- determine density from a given mass and volume.
  - determine volume when mass and density are known.
  - determine mass from a known density and volume.
36. Using  $g/MW = \text{number of moles} = M \times V$  (in liters),
- calculate molarity of a solution from grams of a substance and volume of a substance
  - calculate volume of a solution if molarity and grams of the solute are known,
  - calculate grams of solute present from molarity and volume of a solution.
37. Distinguish between actual yield and theoretical yield; if these two are known, determine percent yield.

38. Explain what a limiting reagent is.
39. Define solution, concentration of a solution, and molarity; solve problems related to concentrations of solution.
40. Calculate the mass of a substance in a solution sample from the weight of the sample, specific gravity of the sample, and percent of substance in the sample.
41. Define: thermochemistry, heat, heat capacity, enthalpy, and heat of reaction.
42. Distinguish between endothermic and exothermic reactions.
43. Give the SI unit for heat; relate this to the calorie; define calorie; compare 'c' to 'C'.
44. Discuss calorimetry; draw a simple calorimeter.
45. Solve problems of calorimetry.
46. Discuss thermodynamic and enthalpy changes.
47. Calculate enthalpy changes.
48. State Hess's law; use Hess's law to determine answers to problems.
49. Compare fuel to food.
50. Distinguish between protons, electrons, and neutrons in terms of their relative masses, relative charges, and location in the atom.
51. Define an atomic mass unit.
52. Use the atomic number and mass number of an element to find the number of protons, electrons, and neutrons.
53. Use the concept of isotopes to explain why the atomic weights of elements are not whole numbers.
54. Calculate the average atomic weight of an element from isotope data.
55. Describe the Thompson, Rutherford, and Bohr models of the atom.
56. Summarize Dalton's atomic theory.
57. Distinguish among principal energy level, energy sublevel, and atomic orbital.
58. Describe the shapes of 's', 'p', and 'd' orbitals.
59. Use the Aufbau principle, the Pauli exclusion principle, and Hund's rule to write the electron configuration of representative elements.
60. Explain the origin of the various forms of the periodic table.
61. Distinguish between a period and a group in the periodic table.
62. State the periodic law.

63. Classify the elements into four categories according to the configuration of the outermost electrons.
64. Recognize the demarcation of the periodic table into 's' blocks, 'p' blocks, 'd' blocks, and 'f' blocks.
65. Write the electron configuration of elements by using the periodic table.
66. Rationalize (in terms of the modern model of the atom) trends in the periodic table with respect to atomic radii and ionization energies.
67. Compare the physical properties of metallic and nonmetallic elements.
68. Relate these terms to the periodic table: representative element, noble gas, alkali metal, alkaline earth metal, halogen, transition metal, inner transition metal, and outer transition metal.
69. Describe the chemical behavior of the elements as they appear on the periodic chart.
70. Give the classification of chemical compounds.
71. Distinguish among strong acids, weak acids, strong bases, and weak bases
72. Give the classifications of chemical reactions and an example of each.
73. Define electrolyte; differentiate among strong electrolyte, weak electrolyte, and nonelectrolyte.
74. Distinguish among metals, nonmetals, and semimetals (metalloids); give an example of each.
75. Define amphoteric.
76. Give the periodic variation of oxidation numbers.
77. List the activity or electromotive series of the elements.
78. Predict the products of chemical reactions.
79. Describe and discuss the chemical properties of some of the important industrial chemicals.
80. State the definitions of the following terms and be able to illustrate each:
  - a. valence electron      b. inner shell electron
  - c. negative ion      d. ionization potential
  - e. ionic bonding      f. electron affinity
  - g. covalent bonding      h. single bond
  - i. double bond      j. triple bond
  - k. coordinate covalent bonding      1. polar covalent bonding
  - m. electronegativity      n. electropositivity
  - o. polar substance      p. metal
  - q. nonmetal      r. oxidation number

s. positive oxidation state      t. negative oxidation state

u. polyatomic ion

81. Illustrate with equations and with schematic diagrams how positive ions or negative ions are formed.
82. Illustrate with schematic diagrams the formation of an ionic compound by combination of a metallic element and a nonmetallic element.
83. Illustrate with schematic diagrams the formation of a covalent compound by the combination of two nonmetallic elements.
84. Describe a valence electron structure (a Lewis formula) and give an example of an ionic compound and a covalent compound.
85. State the rule relating positive oxidation numbers in a compound and apply this rule in writing formulas of compounds when given elements with their oxidation numbers.
86. Use the rule from #6 to calculate the oxidation numbers of each element in a compound.
87. Apply the rules of nomenclature to name binary compounds, bases, binary acids, ternary acids, and ternary salts. Also be able to write the formulas if given the names of the above types of compounds.
88. Define chemical bonding, stating the importance of the noble gas electron configurations.
89. Draw electron dot structures for simple covalent molecules containing single, double, or triple bonds.
90. Describe nonpolar and polar covalent bonds.
91. Use electronegativity values to determine whether a bond is ionic, polar covalent, or nonpolar covalent, and describe the weak attractive forces that hold molecules to each other.
92. Explain the shapes of simple covalently bonded molecules by using electron repulsion theory.
93. Define: molecular orbital.
94. Make a clear distinction between atomic orbitals and molecular orbitals.
95. Define and give examples of:
  - a. a homonuclear diatomic molecule
  - b. a heteronuclear diatomic molecule
96. Recognize the difference between bonding orbitals and antibonding orbitals—i.e. the differences in energy, differences in shape, which tends to fill in preference of the other, tendency to stabilize or destabilize the molecule.
97. State what a sigma-bond is and be able to draw a sigma-bond involving 2 s atomic orbitals, one involving an s and a p orbital, and one involving 2 p atomic orbitals.
98. State what a pi-bond is and draw a pi-bond involving 2 p orbitals.
99. Define bond order; determine the bond order for a given bond and be able to state its significance.



100. Given a molecular orbital diagram be able to explain its meaning.
101. Describe the Valence Shell Electron-Pair Repulsion Theory (VSEPR).
102. Draw the following molecular geometrical shapes:
  - a. linear
  - b. trigonal planar
  - c. tetrahedral
  - d. trigonal bipyramidal
  - e. octahedral
  - f. mickey mouse (T-shaped)
103. Give bond angles and bond distances of each of those listed in 2.
104. Describe hybridization of atomic orbitals.
105. Give an example and illustrate  $sp^3$ ,  $sp^2$ , and  $sp$  hybridization.
106. Illustrate  $\pi$ -bonding in the structures of ethylene and acetylene.
107. Define: compressibility, expansion, diffusion, permeability.
108. Discuss the significance of absolute zero, giving its value in degrees Kelvin and degrees Celsius.
109. Define pressure and explain how it may be measured.
110. State and use Avogadro's hypothesis.
111. Define molar gas volume and give the value at STP.
112. State and use Graham's law of diffusion.
113. Define partial pressure, state Dalton's law of partial pressures, and find the partial pressure for a gas in a mixture of gases.
114. Make calculations involving Boyle's law, Charles' law, Gay-Lussac's law and the combined gas law.
115. Define vapor pressure and explain how a change in temperature can cause a change in vapor pressure.
116. Define boiling point, normal boiling point, and melting point, and explain how these vary with the strength of intermolecular forces.
117. State the kinetic-molecular theory of the behavior of gases.

### Methods of Instruction/Course Format/Delivery:

This course is offered in the following format:

Lecture, class discussion, lecture activities, reading assignments, homework, quizzes, research activities, presentations, pre-laboratory activities, laboratory experimentation, laboratory reports

### Major Assignments / Assessments:

The following items will be assigned and assessed during the semester and used to calculate the student's final grade.

The following components will include, but is not limited to the following items.

1. **Homework, Quizzes, Participation, and Lecture Activities:** These assignments will vary in points and average together to encompass 20% of the final grade.
  - **Homework** - completed and turned in using the online system called Mastering Chemistry, which is designed to accompany the textbook. This code may be purchased as a bundle with the book in the Panola College Bookstore. It may also be purchased separately in the bookstore or online. **This system will be embedded in Canvas.**
    - For homework to be most useful in preparing for in class work and exams, it must be submitted by the date due. Late work is not accepted as there is ample time allowed for completion and the homework is available to work on 24/7.
    - **Mastering Chemistry** - Registration instructions are located in Canvas
    - Make sure you have the latest free download of adobe flash player and any other required free software
    - **Application assignments** – There will be mandatory assignments periodically that you will complete and turn in that are separate from mastering chemistry. These assignments are designed to help you see the real world applications of chemistry and understand how to research/present scientific information from an article.
  - **Lecture Activities** – exercises/activities performed in class or online as a participation in the lesson, quizzes in class or online. No late or makeup work will be accepted for lecture activities or quizzes.
  - **Library Literacy Information course** – All chemistry students need to know how to use the library resources for research, tutoring etc. Therefore, all students must enroll and complete the library information literacy course. It will take a total of about 3 hours to complete. Students will have a couple of weeks to complete it. It is provided by the library. If this is required for more than one class, the student only has to do it once and will be allowed to submit the certificate.
  - **Study Groups** - are recommended to encourage peer tutoring and cooperative learning. Groups will form by student choice and meet at times chosen by the group. Reports of study group activity will be turned in to me once a month for extra credit in the homework/lecture activities grade portion. Report forms may be downloaded from Canvas. Turn in the study group report form to my office during the first week of each month to reflect the previous month's activity. Please combine August and January with the following month.
2. **Laboratory Experiments** – Laboratory experiments will be performed in order to apply the general principles, laws and theories of chemistry learned during lecture. Experimental results will be recorded in the laboratory notebook according to the procedures The laboratory course information will be provided and discussed in the mandatory laboratory orientation by your lab instructor. **No student will be allowed to begin any experiments in the lab without going through lab orientation.** The lab instructor has the authority to remove 5 points from your laboratory report for each expectation in the laboratory guidelines that is not followed by the

student. Removal of points or the student is by instructor discretion based on previous warning or the gravity of the infraction. NO ONE WILL BE ALLOWED TO PUT YOU OR OTHERS AT RISK IN THE LAB. Students must follow all expectations as described in the course information document in order to remain in lab class. Safety is most important.

- The grade of 150 possible points for each laboratory experiment is broken down as follows:
    - i. 50 points for showing up on time with the pre-lab assignment complete (in the lab manual). This is your ticket in the door and you will not begin an experiment without having met all of the requirements. This also includes conducting the experiment, adhering to all safety and equipment use rules, completing the experiment, cleaning up your lab station, and disposing of all waste, trash according to instructions given. All of these items must be complete before leaving lab. If any of this is incomplete, 30 points will be removed. Instructor initials in the laboratory notebook is required.
    - ii. In order to receive the above 50 points in the grade book, a typed lab report must be submitted in canvas
    - iii. 100 points for the written report you submit. It must be complete, legible, and information (data tables, calculations, answers, and explanations) must be typed, properly presented, and clearly explained when necessary. All work must be shown when necessary to receive full credit.
  - Missing a lab-
    - i. **No more than 2 missed labs may be made up. No exceptions. . (This is not for Panola College approved activities. These students may make up the lab another day that week.)**
    - ii. A make-up lab schedule will be posted. All make up lab times will be at the convenience of the instructor. It is the student's responsibility to make arrangements to attend make up labs according to the schedule. No additional make up lab times will be available.
  - Cell phones in lab- NO CELL PHONES IN LAB!!!! If you have a situation where you may need to take a call, then you will leave the phone at the instructor table to be answered by you when/if it rings. If you have your phone out or are using your phone without permission for any reason, you will lose all 30 points of your participation grade but are required to complete the experiment. This is a violation of safety rules and putting others or yourself at risk will not be tolerated.
3. **Unit Exams** – Four unit exams will be given throughout the semester worth 100 points each. These exams will average together to make up 40% of the final grade.

**Face to Face Students:** For students to have plenty of time to complete the exam, each exam will be given outside of regular class time at Panola College on the date and time set by the instructor. Paper exams are given. You need a pencil/pen and your calculator for each exam. All other materials will be provided.

Absences on exam days are not excused for ANY reason other than approved Panola College activities. Students with excused absences may take a make-up exam similar to the one given at a time convenient to the instructor. **For unexcused absences, one unit exam may be made up at the end of the semester at a time designated by the instructor. The make-up exam is comprehensive and all essay/problems.** I do not drop/replace any exam grades in this course.

- The unit break down for exams is as follows (see the lecture schedule for tentative dates):

- Unit I Chapters E, 1, 2
- Unit II Chapters 3, 4, 5
- Unit III Chapters 6, 7, 8
- Unit IV Chapters 9, 10, 11, 12

4. **Final Exam** – is also comprehensive, all multiple choice, and will be administered according to the posted final exam schedule (not available at this time). Additional information will be in the final exam module on Canvas, which posts toward the end of the semester. This exam is worth 15% of the final grade.

## **Classroom Policies**

**Attendance** – is expected at all labs. Attendance in lecture and lab is required for course completion. Class attendance is monitored and recorded. However, this level of instruction includes expected personal responsibility that will not always be addressed. YOU are responsible for missed information. Attendance WILL affect your grade because you probably missed something you needed to learn how to do. If you miss a class, it is your responsibility to contact me about what you missed. Please see syllabus and make up work policies before you ask. See the handbook for rules concerning allowed absences.

**NO CELL PHONES**- Cell phones are not allowed to be used as calculators in class or lab.

**Withdrawal Policy:** A student may need to withdraw from the course before the semester's end. It is the student's responsibility to complete and submit the appropriate forms (as provided by the student success office) on or before the withdrawal date. The withdrawal date is posted on the college academic calendar. A student who ceases to attend class without formal withdrawal will receive a grade of "F" for the course. The instructor reserves the right to withdraw a student from the course in accordance with college policy. Students should consider that they may only drop 6 total courses during their college tenure.

**Incomplete Grade:** An Incomplete grade is a temporary grade given to a student who is unable to complete the course as the result of an authorized absence (i.e. serious illness or emergency). Incomplete grades will only be approved by the instructor for students who have maintained good standing in the course. All incompletes must be further approved by the Vice President of Instruction. Students should note that an incomplete grade ("I") has the effect of an "F" on their GPA. The "I" will be removed once the student completes the course. Students have a maximum of six weeks to complete the course from the semester's end or they will receive a grade of "F" for the course.

**Classroom Etiquette:** Students should arrive on time and remain in class until the full class period has expired. Appropriate dress attire should be worn (i.e. no pajamas or overly revealing attire), headwear should be removed, and students should be respectful (in language and behavior) toward one another and the instructor. **Students are highly encouraged to engage the class by participating in class discussions and asking appropriate questions. The standards of student conduct must be maintained with the instructor outside of class and in all electronic communication with the instructor or other students.**

Cell phones, computers, and all other electronic devices must be turned off before the beginning of class unless indicated by the instructor. Students shall be allowed to record lectures but their recording device must be placed at the front of the class on or near the instructor. Recording a lecture does not excuse a student from attending class.

At all times students are expected to uphold the standards of student conduct as defined in the Student Handbook. A failure to comply with these conditions will result in removal from the classroom and an absent mark on the attendance record.

**Internet Etiquette:** All online users should take great care in their internet behavior. Students are expected to remain respectful in all electronic communication as any publicly or privately shared media will be viewed by others. This communication includes all written material, submitted assignments, pictures, audio recordings, and video recordings. The instructor reserves the right to remove online submissions that contain inappropriate or obscene material. Students who violate proper internet etiquette in an assignment shall fail the assignment on the first offense and shall fail the class upon the second offense.

No user shall post personal or confidential information concerning another party without their express permission. No student shall copy, alter or share files of course material submitted by another student. All of the standards of the academic honesty policy shall apply to all online course material. Students shall be held accountable for posting libelous or obscene material on any electronic forum hosted or expressly regulated by the college under user agreement. The instructor and the college reserve the right to remove said material and hold disciplinary actions in accord with college policy. At all times students are expected to uphold the standards of student conduct as defined in the Student Handbook. The instructor and the college shall have the right to remove a student from the course (resulting in a failing grade) and take appropriate disciplinary actions (as defined by the student handbook) for violating any of the aforementioned policies.

**Cheating:** "Cheating" is defined as unauthorized help on an examination or assigned course material.

A student must not receive from any other student or give to any other student any information, answers, or help during an exam. A student must not "steal" the answers from an unsuspecting student during an exam.

A student must not use any sources for answers during an exam (including, but not limited to: notes, books, or electronic devices) without prior authorization from the professor.

A student must not obtain exam questions illegally, tamper with the exam questions, nor change the results of an exam after it has been graded.

All cheating infractions will result in a grade of "0" for the assignment. A student will fail the class upon their second cheating offense. This policy shall be adhered to unless mitigating circumstances should prove a lesser penalty should apply.

Students shall have the right to contest a cheating claim. The appeals process is specifically defined in the student handbook.

**Plagiarism:** "Plagiarism" is defined as the taking of a person's ideas, words, or information and claiming those properties as one's own. The use of all ideas, words, or information from any source must be properly referenced and due credit must be given to its author.

All class assignments must be submitted through Canvas. Canvas will run the submitted assignments through [turnitin.com](https://turnitin.com). Any assignment which scores higher than 40% on copied material will automatically receive a grade of "0". Properly quoting and citing borrowed information is NOT plagiarism. However, since the integrity of the assignment is based upon the originality of the student's work, no student may turn in a paper which exceeds a 30% score in properly quoted and cited material.

The instructor reserves the right to employ other means outside of [turnitin.com](https://turnitin.com) to check the "originality" of a student's work. Students shall have the right to contest a plagiarism or cheating claim. The appeals process is specifically defined in the student handbook.

All plagiarizing infractions will result in a grade of "0" for the assignment. A student will fail the class upon their second plagiarizing offense. This policy shall be adhered to unless mitigating circumstances should prove a lesser penalty should apply.

**Privacy Policy:** The instructor will uphold the privacy of a student's grades, disability, and all other personal information in accord with school policy, state and federal law.

A student perpetually maintains the right to review their course grades. A student's right to review their grades shall not be interpreted as the right for the release of an instructor's grading keys.

The instructor and the college do not assume responsibility for the disbursement of any grade information a student freely gives of himself in private correspondence or in a public forum. The instructor reserves the right to remove grade information which a student freely reveals of him or herself in an online public forum hosted or regulated by the college to preserve the integrity of the course.

The instructor reserves the right to pursue disciplinary and legal action against any student who illicitly obtains and reveals private instructional information, including, but not limited to answer keys or class grades.

**Disability Policy:** Students with a learning disability must verify their disability with the Career/Technical Advisor in the Student Success Office. The student is responsible for presenting proper verification to the instructor at the beginning of the course. Upon verification, the instructor shall make the appropriate accommodations for the student. The instructor shall not implement special accommodations for students whose disability has not been verified by the college. The instructor is not responsible for a student's poor class performance before verification is presented.

Students with a condition that may require emergency assistance (i.e. seizures, pacemaker malfunctions, hyperventilation, etc) should meet with the instructor in private to discuss emergency procedures.

A disability does not exempt a student from proper classroom etiquette or the student code of conduct. This class will fully comply with the college handbook, state, and federal laws.

### **My Philosophy:**

I believe chemistry is a core discipline essential to a college education regardless of major or career choice. Recognizing a broad range of interests, preparations, and future needs among chemistry students, this course is designed to allow each student to individually select topics for various assignments in order to further develop possible career choices. Every attempt on my part is made to ensure your area of interest is discussed. Please let me know if there is a topic that particularly interests you.

Organization is a key to success in this course. I highly recommend a notebook or a three ring binder to keep up with all assignments, quizzes, homework and exams. For example, if there is a problem with the homework system and you can show me your work, I am able to give you credit.

I really want you to be successful in this course. Please do not hesitate to come by my office for help. If the office hours conflict with your schedule, every effort will be made to arrange an alternative time. I cannot fix what I am not aware of so communication is a must. Please know that email is the best way to get a quicker response since I don't access my office phone from home.

### **Canvas:**

This course is available on Canvas and will contain all information necessary for the course. Canvas is also the method in which you will contact me, make any necessary appointments, receive announcements, take quizzes, do your homework, and watch screen casts. Please make sure you know how to use it. **Make sure you have the latest free download of adobe flash player.** There are canvas orientations through the distance learning office you may attend for assistance.

### **Course Grade:**

The grading scale for this course is as follows:

1. Homework and lecture activities 20%
2. Labs 25%
3. Unit Exams 40%
4. Final Exam 15%

Letter grades are as follows:

A	90 - 100
B	80 - 89
C	70 - 79
D	60 - 69
F	Below 60

**Texts, Materials, and Supplies:**

1. Chemistry: Structure and Properties 2nd ed. by Nivaldo J. Tro.
2. Mastering Chemistry access code (homework registration necessary for online homework)
3. General Chemistry in the Laboratory. Amy Calhoun (sold only in the Panola College bookstore)
4. Laboratory notebook (sold in the Panola College bookstore)
5. SCIENTIFIC CALCULATOR (no cell phones) (it does NOT need to be graphing)
6. Safety glasses/goggles

**Required Readings:**

may include, but not limited to:

- Textbook, journal articles, and other relevant scientific material

**Recommended Readings:**

may include, but not limited to:

- Textbook, journal articles, and other relevant scientific material

**Other:**

- For current texts and materials, use the following link to access bookstore listings: <http://www.panolacollegestore.com>
- For testing services, use the following link: <http://www.panola.edu/elearning/testing.html>
- If any student in this class has special classroom or testing needs because of a physical learning or emotional condition, please contact the ADA Student Coordinator in Support Services located in the Charles C. Matthews Student Center or go to <http://www.panola.edu/student-success/disability-support-services/> for more information.
- Withdrawing from a course is the student's responsibility. Students who do not attend class and who do not withdraw will receive the grade earned for the course.
- Student Handbook, *The Pathfinder*: <http://www.panola.edu/student-success/documents/pathfinder.pdf>