

**South Plains College**  
**Common Course Syllabus: CHEM 1406**  
**Revised Fall 2020**

**Department:** Science

**Discipline:** Chemistry

**Course Number:** CHEM 1406-008

**Course Title:** Introductory Chemistry I

**Available Formats:** Flex

**Campus:** Levelland

**Course Description:** Survey course introducing chemistry. Topics may include inorganic, organic, biochemistry, food/physiological chemistry, and environmental/ consumer chemistry. Designed for non-science and allied health students. Basic laboratory experiments supporting theoretical principles presented in lecture; introduction of the scientific method, experimental design, data collection and analysis, and preparation of laboratory reports. Semester Hours: 4 Lecture Hours: 3 Lab Hours: 3 Note: This course may not be substituted for CHEM 1411.

**Prerequisite:** None

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

**Textbook:**

An Introduction to General, Organic, and Biological Chemistry by Timberlake, 13<sup>th</sup> Ed.  
CHEM 1406 Lab Manual

**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

**Instructor:** Shawn Horn, M.S.

Office: S117-C

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**Office Hours:**

|   |               |
|---|---------------|
| M | 11:00 – 12:00 |
| T | 1:00 – 2:00   |
| W | 11:00 – 12:00 |
| R | 1:00 – 2:00   |
| F | 11:00 – 3:00  |

**Student Learning Outcomes:****From Lecture:**

1. Convert units of measure and demonstrate dimensional analysis skills
2. Define the fundamental properties of matter and classify matter, compounds, and chemical reactions.
3. Determine the basic nuclear and electronic structure of atoms.
4. Distinguish between ionic and covalent compounds and name the different compounds.
5. Identify trends in chemical and physical properties of the elements using the periodic table.
6. Determine the role of energy in physical and chemical reactions.
7. Use the mole concept to determine the number of atoms, moles, grams, and solve elementary stoichiometry-based calculations.
8. Determine the concentrations of solutions using percentage and molarity designations.
9. Use various characteristics of a solution to identify it as an acid or base.
10. Identify and name various organic compounds.
11. Identify and explain the functions of carbohydrates, lipids, and proteins.

**From Lab:**

1. Use basic apparatus and apply experimental methodologies used in the chemistry laboratory.
2. Demonstrate safe and proper handling of laboratory equipment and chemicals.
3. Conduct basic laboratory experiments with proper laboratory techniques.
4. Make careful and accurate experimental observations.
5. Relate physical observations and measurements to theoretical principles.
6. Interpret laboratory results and experimental data, and reach logical conclusions.
7. Record experimental work completely and accurately in laboratory notebooks and communicate experimental results clearly in written reports.
8. Design fundamental experiments involving principles of chemistry.
9. Identify appropriate sources of information for conducting laboratory experiments involving principles of chemistry.

**Student Learning Outcomes:** Assessment: 2-3 questions from the semester will be randomly selected from the regular exams. These will pertain to a pre-selected topic and will be used to determine the extent of improvement that the students have gained during the semester.

**Course Evaluation:**

A = 89.50 – 100%  
 B = 79.50 – 89.49%  
 C = 69.50 – 79.49%  
 D = 59.50 – 69.49%  
 F = below 59.49%

Lecture Exam 1: 100 points  
 Lecture Exam 2: 100 points  
 Lecture Exam 3: 100 points  
 Pre-lab Quizzes: 45 points  
 Post-lab Questions: 45 points  
 Final Exam: 75 points  
 Total Possible point: 365 points

(One lowest midterm exam grade will be dropped)

**Attendance Policy:** It is important that you attend all lectures and labs in order to do well in this course. Absences caused by official South Plains College activities will be excused. A student may be administratively withdrawn from the course if absences become excessive. Students are officially enrolled in all courses for which they pay tuition and fees at the time of registration. Should a student, for any reason, delay in reporting to a class after official enrollment, absences will be attributed to the student from the first class meeting. Students who enroll in a course but have "Never Attended" by the official census date, as reported by the faculty member, will be administratively dropped by the Office of Admissions and Records. A student who does not meet the attendance requirements of a class as stated in the course syllabus and does not officially withdraw from that course by the official census date of the semester, may be administratively withdrawn from that course and receive a grade of "X" or "F" as determined by the instructor. It is the student's responsibility to verify administrative drops for excessive absences through MySPC using his or her student online account. If it is determined that a student is awarded financial aid for a class or classes in which the student never attended or participated, the financial aid award will be adjusted in accordance with the classes in which the student did attend/participate and the student will owe any balance resulting from the adjustment.

**Academic Integrity:** Cheating (as defined in the SPC General Catalog) will not be tolerated. If a student is caught cheating on an exam, a grade of ZERO will be given for that exam and that grade will NOT be dropped as lowest exam grade at the end of semester.

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

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

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

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

**Title IX Pregnancy Accommodations Statement:** If you are pregnant, or have given birth within six months, Under Title IX you have a right to reasonable accommodations to help continue your education. To activate accommodations you must submit a Title IX pregnancy accommodations request, along with specific medical documentation, to the Director of Health and Wellness. Once

approved, notification will be sent to the student and instructors. It is the student's responsibility to work with the instructor to arrange accommodations. Contact the Director of Health and Wellness at 806-716-2362 or [email cgilster@southplainscollege.edu](mailto:cgilster@southplainscollege.edu) for assistance.

**Lecture Exams:** There will be 3 lecture exams and a final exam; these exams will cover the materials discussed in the lectures, and the schedule of the lecture exams are on the course schedule along with lecture information. Lecture exams will be in a multiple-choice format, 40 questions in length. Only the materials discussed in the lectures will be on the exam and you will have designated class time to finish the exam. *There will be NO make-up exam allowed! If a student misses an exam, the student will receive a grade of ZERO for the exam missed.*

- Lecture exam 1 (Chapters 2 and 4)
- Lecture exam 2 (Chapters 6 and 7)
- Lecture exam 3 (Chapters 3 and 8)
- Final exam (Chapters 9-16)

*The materials scheduled for each lecture exam by subject to change, this change will be announced in advance if necessary.*

**Lab Experiments:** Students are expected to read the lab manual for the given experiment each week before coming to class. A pre-lab quiz will be given at the beginning of lab (5 pts). Lab data and calculations will be collected for grading at the end of each lab period (5 pts each). If a student misses a lab, they will have one week to make it up by completing an online version of the lab. They must first take the pre-lab quiz on Blackboard using Proctorio, then watch video of the lab and record data, then complete the post-lab questions and email a screenshot of it.

**Final Exam:** The final exam will be semi-comprehensive, covering chapters 9-16. The final exam will count 75 points and will be 75 multiple choice questions. Only the materials covered in the lectures will be on the exam, and you will have designated class time to finish the exam. There will be no make-up for final exams, missed final exam will result in a grade of ZERO.

**Note:** *At the end of the semester, the one midterm exam grade that is the LOWEST will be dropped. If you have two same exam grades and they are the lowest, ONLY one of them will be dropped at the end of the semester.*

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

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

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

| <b>Week #</b>      | <b>Lecture</b> | <b>Lab</b>      |
|--------------------|----------------|-----------------|
| <b>1</b><br>8/24   | Intro/Syllabus | Intro/Syllabus  |
| <b>2</b><br>8/31   | Chapter 2      | Exp. 1          |
| <b>3</b><br>9/7    | Chapter 4      | Exp. 2          |
| <b>4</b><br>9/14   | <b>Exam 1</b>  | <b>Exam 1</b>   |
| <b>5</b><br>9/21   | Chapter 6      | Exp. 3          |
| <b>6</b><br>9/28   | Chapter 7      | Exp. 6          |
| <b>7</b><br>10/5   | <b>Exam 2</b>  | <b>Exam 2</b>   |
| <b>8</b><br>10/12  | Chapter 3      | Exp. 7          |
| <b>9</b><br>10/19  | Chapter 8      | Exp. 9          |
| <b>10</b><br>10/26 | <b>Exam 3</b>  | <b>Exam 3</b>   |
| <b>11</b><br>11/2  | Chapter 9      | Exp. 10         |
| <b>12</b><br>11/9  | Chapter 10     | Exp. 11         |
| <b>13</b><br>11/16 | Chapter 11     | Exp. 12         |
| <b>14</b><br>11/23 | Chapter 12-14  | No lab          |
| <b>15</b><br>11/30 | Chapter 15-16  | Final Exam Prep |

#### **FINAL EXAM SCHEDULE:**