

South Plains College
Common Course Syllabus: CHEM 1406
Revised Spring 2021

Department: Science

Discipline: Chemistry

Course Number: CHEM 1406-005

Course Title: Introductory Chemistry I

Available Formats: Flex

Campus: Levelland

Prerequisite: None

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

Textbook:

- An Introduction to General, Organic, and Biological Chemistry by Timberlake, 13th Ed. **(Recommended)**
- CHEM 1406 Lab Manual **(Required)**

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: S118

sthorn@southplainscollege.edu

Office Hours:

M 12:30 – 2:30

T 12:00 – 1:00

W 12:30 – 2:30

R 12:00 – 1:00

F 1:00 – 3:00

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.

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
 Possible Bonus Points: 20 points
 Total Possible point: 355 points

(One lowest midterm exam and lab will be dropped)

SPC COVID Policy: It is the policy of South Plains College for the Spring 2021 semester that as a condition of on-campus enrollment, all students are required to engage in safe behaviors to avoid the spread of COVID-19 in the SPC community. Such behaviors specifically include the requirement that all students properly wear CDC-compliant face coverings while in SPC buildings including in classrooms, labs, hallways, and restrooms. Failure to comply with this policy may result in dismissal from the current class session. If the student refuses to leave the classroom or lab after being dismissed, the student may be referred to the Dean of Students on the Levelland campus or the Dean/Director of external centers for Student Code of Conduct Violation. **If you have been exposed to someone or have contracted COVID yourself, it is your responsibility to contact DeEtte Edens (dedens@southplainscollege.edu). She is the SPC COVID contact person.**

Attendance Policy: It is important that you attend all lectures and labs in order to do well in this course. Attendance will usually be taken during the lecture period, and lab attendance will be determined by the lab sheets submitted at the end of lab experiment. The class information sheet contains the schedule of lectures and labs. If you are unable to finish this course, complete a withdrawal slip at the registrar's office. Absences caused by official South Plains College activities will be excused.

If you miss any **4 days** of class or **3 consecutive days**, you will be dropped IMMEDIATELY. If you are currently passing, you'll be dropped with an X; if you're currently failing, you'll be dropped with an F. If you are absent due to COVID, these days will not count against you, but only if you have contacted DeEtte Edens and she has approved your absence.

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 generally be in a multiple-choice format, 25 questions in length, with the occasional free-response question. Only the materials discussed in the lectures will be on the exam. You will be given **1 hour and 15 minutes** to finish the exam. There will be a review packet for each exam. If the review is completed (by hand) and turned in at the exam time, **you can receive up to 5 bonus points** on your exam based on completion and effort (not accuracy).

A **3x5 notecard** will be permitted for the exams. Both sides of the notecard may be used and can be handwritten or typed. Notecards should contain **formulas, conversions, and constants**, or any other information allowed by the instructor announced in class. Notecards **CANNOT** contain any worked examples from class notes, in-class worksheets, practice problems, or any other examples found online. A student should also not write any questions on the notecard. For each unauthorized example found on the notecard points will be **deducted** from the exam. The length of the exam and the amount of unpermitted information will determine the number of points deducted. Any bonus points for that exam will also be deducted from the exam total. Any unauthorized material on the notecard is classified as cheating therefore the cheating policies in the syllabus will also be followed.

You will be allowed to makeup ONE missed exam by appointment only. The makeup time is Friday from 1:00-2:15 pm in Room 112. If you show up late, you may still complete the exam, but you will forfeit that portion of your time. Makeup exams must be completed before the next exam. Missing an appointment will result in receiving a ZERO for the exam..

- 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 complete an online version of the lab while filling out their lab manual and answers the lab questions. The lab is due upon first return, which is when the lab quiz will be taken. Failure to complete the lab during this time will result in a ZERO.

Final Exam: The final exam will be semi-comprehensive, covering chapters 9–16. The final exam will count as 75 points and will be 40 questions (mostly multiple choice). Only the materials covered in the lectures will be on the exam. The final will be given **online** on Blackboard and will be **open-note**. You will have 2 hours to finish the exam. There will be no make-up for final exams, missed final exam will result in a grade of ZERO.

Lab Safety: The chemistry laboratory is a potentially hazardous environment; so, 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.

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, [email cgilster@southplainscollege.edu](mailto:cgilster@southplainscollege.edu) for assistance.

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.*

Week #	Lecture	Lab
1 1/18	Intro/Syllabus (Not Meeting in Person)	Intro/Syllabus (Not Meeting in Person)
2 1/25	Chapter 2	Exp. 1
3 2/1	Chapter 4	Exp. 2
4 2/8	Exam 1 Review	Exam 1
5 2/15	Chapter 6	Exp. 3
6 2/22	Chapter 7	Exp. 6
7 3/1	Exam 2 Review	Exam 2
8 3/8	Chapter 3	Exp. 7
9 3/15	SPRING	BREAK
10 3/22	Chapter 8	Exp. 9
11 3/29	Exam 3 Review	Exam 3
12 4/5	Chapter 9	Exp. 10
13 4/12	Chapter 10	Exp. 11
14 4/19	Chapter 11	Exp. 12
15 4/26	Chapter 12-16	No lab
16 5/3	Final Exam Review	Final Exam Review

HOME SCHEDULE: *The following table gives you a guide for what you should be doing at home **after** attending class that week and **before** you attend class the following week.*

Week #	Lecture	Lab
1 1/18	Watch Chapter 2 Videos	Read Exp. 1
2 1/25	Watch Chapter 4 Videos	Read Exp. 2
3 2/1	Complete Exam 1 Review	None
4 2/8	Watch Chapter 6 Videos	Read Exp. 3
5 2/15	Watch Chapter 7 Videos	Read Exp. 6
6 2/22	Complete Exam 2 Review	None
7 3/1	Watch Chapter 3 Videos	Read Exp. 7
8 3/8	Watch Chapter 8 Videos	Read Exp. 9
9 3/15	SPRING	BREAK
10 3/22	Complete Exam 3 Review	None
11 3/29	Watch Chapter 9 Videos	Read Exp. 10
12 4/5	Watch Chapter 10 Videos	Read Exp. 11
13 4/12	Watch Chapter 11 Videos	Read Exp. 12
14 4/19	Watch Chapter 12-16 Videos	None
15 4/26	Complete Final Exam Review	None
16 5/3	Complete Final Exam Review	None

FINAL EXAM SCHEDULE:

Wednesday, May 12, 2021: 9:00 am – 9:00 pm

Online: Blackboard

Open-note

2 hours to complete

Must be finished by 9:00 pm