South Plains College
Common Course Syllabus: CHEM 2425
Revised December 2025

Department: Science

Discipline: Chemistry

Course Number: CHEM 2425

Course Title: Organic Chemistry II

Instructor:

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Office Hours: Monday: 8:30 am – 9:30 am
Tuesday: 8:30 am – 9:30 am; 2 pm – 3 pm
Wednesday: 8:30 am – 9:30 am
Thursday: 8:30 am – 9:30 am; 2 pm – 3 pm
Friday: 9 am – 11 am

You may also make an appointment for office hours using the following link:
Calendly Office Hours

Available Formats: Face-to-Face

Campuses: Levelland

Course Description: Organic Chemistry II builds upon the foundational concepts of Organic Chemistry I, with an emphasis on the advanced principles that govern the structure, properties, and reactivity of aliphatic and aromatic compounds and their derivatives. Students will explore reaction mechanisms, stereochemistry, and functional group transformations with a strong focus on organic synthesis and problem-solving skills.

The course integrates theoretical understanding with practical application through laboratory investigations designed to reinforce lecture topics. Students will gain experience in modern synthetic methods, reaction analysis, and purification techniques, while developing a deeper appreciation for how organic chemistry underpins biological, industrial, and pharmaceutical sciences.

This course is intended for students in science, pre-medical, pre-dental, pre-pharmacy, and related professional programs.

Prerequisite: A grade of "C" or better in CHEM 2423 or CHEM 2523.

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

Supplies:

Safety Goggles – Required, obtained from bookstore
Calculator – Required, must be scientific, **CELL PHONES NOT ALLOWED**
Laboratory gloves- Required, Examination style. Nitrile is recommended and offers the best protection. Latex gloves are NOT allowed

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:

By the end of this course, students will be able to:

1. Correlate molecular structure with the physical and chemical properties of aliphatic and aromatic organic molecules.
2. Predict mechanisms and products of substitution and elimination reactions, given starting materials and reaction conditions.
3. Evaluate the stereochemical outcomes of reactions, including enantiomeric and diastereomeric relationships.
4. Analyze reaction mechanisms in terms of energetics, kinetics, and thermodynamics.
5. Apply spectroscopic techniques (IR, NMR, MS, UV-Vis) to identify and characterize organic compounds and functional groups.

From Laboratory:

By the end of this course, students will be able to:

1. Perform experiments, analyses, and waste disposal procedures in a safe and responsible manner.
2. Use laboratory tools—including glassware and analytical instruments—to collect, interpret, and analyze experimental data.
3. Select and apply appropriate purification and separation techniques (e.g., distillation, extraction, chromatography) to isolate organic compounds.
4. Record experimental procedures and results accurately in a laboratory notebook and effectively communicate findings in written reports.

5. Integrate laboratory data with theoretical principles to explain molecular structure, reactivity, and properties.

Assessment of Student Learning Outcomes:

Student learning will be assessed by embedding 2–3 targeted questions within regular exams each semester. These questions will cover pre-selected topics and will be used to measure student growth and mastery of course outcomes over time.

Course Evaluation:

- **Major Exams**
  - There will be four major exams throughout the semester, each worth 100 points (with opportunities for bonus points).
  - To keep everyone on track, make-up exams will not be offered, so please plan ahead and communicate with me early if conflicts arise. See policy below for specific examples for make-up exams.
  - You may use a calculator (after clearing its memory and showing me before the exam begins).
  - Molecular model kits are welcome and encouraged during exams.
  - A reference/formula sheet will also be provided or permitted so you can focus on applying concepts rather than memorizing every detail.
- **Final Exam**
  - The final exam is comprehensive and optional. Think of it as an extra opportunity—you can use it to replace your lowest exam grade if it helps your overall average.
  - The final exam is open note, so your own well-organized notes will be a valuable tool.
  - Finals are scheduled by the college, and you'll take it at the assigned time.

Remember: Exams are not meant to trick you—they're designed to highlight what you've learned and how you're growing as a problem solver. With consistent effort, preparation, and the resources provided, you'll be ready to succeed.

Reference Sheets

- For each major exam, you may prepare one reference sheet (regular letter-sized paper). This sheet can include formulas, notes, or anything you believe will help you.
- Your reference sheet must be turned in along with your exam.

Exam Make-Ups

- **Lecture Exams:** Make-up exams are only available if you notify me *in advance*. Please don't wait until the next class meeting to ask. Once an exam has been graded and returned, no make-ups will be given. This means any make-up must be completed **before the following class period**.
- **Final Exam:** Final exam times are set by the college, not by me. If you must miss the final due to serious, unavoidable circumstances, contact me immediately so we can make arrangements. A final exam make-up must be completed by **3:00 PM on Thursday of final exam week** or it will be recorded as a zero.

- In rare, extreme situations (e.g., hospitalization) where taking the final is impossible, you may be excused and your grade will be based on existing coursework—unless the college has other requirements. Documentation will be required in such cases.

Life happens, and communication is key. If you encounter an emergency, let me know as soon as possible so we can work together on the best solution.

Laboratory Policies, Safety, and Good Practices

This is where chemistry truly comes alive through discovery, experimentation, and hands-on learning. The lab can be both exciting and challenging, and maintaining a culture of safety, teamwork, and preparation ensures that everyone has a successful experience.

Proper Laboratory Dress

Safety starts before you even step into the lab. You must arrive properly dressed to participate:

- Safety glasses and gloves are required at all times.
- Closed-toed shoes, long pants, and a shirt with sleeves are mandatory.
- Long hair must be tied back and secured.
- Students who arrive without proper attire will not be allowed to perform the experiment and will receive a zero for that lab activity.

Food, Drinks, and Personal Items

- Food, drinks (including water bottles), and gum are not allowed in the lab. They should be stored in your bag or on the instructor's desk before lab begins.
- Personal belongings should be placed near your station but out of aisles and off the benchtop to prevent spills and clutter.

Lab Work and Reports

You'll complete a series of experiments designed to reinforce the key concepts of Organic Chemistry II. Your lab grade is based on your lab reports and performance in lab.

- Teamwork: You will work with a designated lab partner for the semester. Each pair will collect their own data and submit jointly written lab reports.
    - Sharing data between groups is not allowed. Each team must collect its own results.
    - If your partner is absent, you'll work alone that day. If both partners are absent, the experiment cannot be made up and will count as a missed lab.
    - If your partner drops the course, I'll reassign you as soon as possible. Flexibility may be needed as groups shift during the semester.
- Preparation: Read the experiment before class and come ready to work. Lab sessions vary in length depending on the experiment, but all students must be finished and cleaned up by 12:45 PM.
- Clean-Up: You're responsible for keeping your station and shared areas clean and organized. Wipe down your bench and return equipment before leaving.
- Lab Reports:
    - You and your partner will submit your own lab report per experiment.
    - Late reports lose 10 points if submitted by the next class day; reports submitted later receive a zero.
- Organic Lab Notebook:

- A bound lab notebook is required. This can be a composition notebook or spiral bound. May not be on your personal tablet or computer.
- Specific notebook guidelines will be provided on blackboard.

Equipment and Experiments

- Handle equipment with care. Items used in this lab are expensive and limited in number. If your group breaks or loses something, you may have to proceed without it until a replacement can be located.
- Restarting Experiments:
  - Experiments must be completed on the day they are scheduled.
  - A restart is permitted only for equipment malfunction, not for errors or poor results.
  - Restarting an experiment does not extend lab time—all work must be completed before the end of the class period.
- Waste Disposal: Always follow the specific waste instructions for each experiment. Do not pour anything down the sink unless directed to do so.

General Safety Guidelines

- Know where the eyewash station, safety shower, fire extinguisher, and first aid kit are located.
- Report any spills, breaks, or injuries immediately—no matter how small.
- Never work alone or perform unauthorized experiments.
- Keep your workspace organized and uncluttered.
- Respect your classmates—no horseplay, distractions, or phone use during experiments.
- Wash your hands before leaving the lab.

***Before You Enter the Lab* — Quick Safety Checklist**

Use this quick list to make sure you're ready for lab each day:

☐ Safety glasses on
☐ Gloves ready
☐ Closed-toed shoes
☐ Long pants and sleeves
☐ Hair tied back
☐ No food or drinks
☐ Lab notebook and pre-lab read

Remember: Lab success comes from preparation, teamwork, and safety. When we take these guidelines seriously, we create an environment where everyone can explore, learn, and thrive.

Course Policies and Expectations

Grading Breakdown

Your final grade will be calculated as follows:

- **Exams:** 50%
- **Homework:** 20%
- **Laboratory Work:** 15%
- **Research Paper:** 10%
- **Attendance and Participation:** 5%

Homework

Homework assignments are designed to **help you prepare for exams and strengthen your understanding** of the material.

- Homework will be completed on **Blackboard**.
- Each chapter will include assigned problems that reinforce lecture topics.
- Homework grades will be automatically recorded in the Blackboard gradebook.
- Staying consistent with homework is the best way to ensure success on exams.

Research Paper

You'll complete a short research paper toward the end of the semester that allows you to explore a topic in chemistry that interests you.

- Topics will be selected on a **first-come, first-served** basis during **Week 6**.
- The paper must be at least **2 full pages**, not including references.
- You must use **at least two peer-reviewed article** as a source.
- Detailed instructions, formatting guidelines, and grading rubrics will be provided on **Blackboard** and reviewed in class as the deadline approaches.
- The goal is to practice reading scientific literature and applying concepts from class in a real-world context.

Attendance Policy

Your success in this course depends heavily on your participation and engagement in class.

- Attendance will be taken at **random class meetings**, usually within the first 30 minutes.
- **If you leave early**, you will be counted **absent** for the day. This includes missing lab. You must be present for lecture AND lab to receive 100% attendance for that day.
- You are allowed up to **4 absences total**. After the 4th absence, you may be **dropped from the course with an "F."**

If you must miss class, please **communicate with me beforehand** whenever possible. Life happens — and communication helps us handle it the right way.

If you decide to withdraw from the course, you must officially do so **through the Registrar's Office by the drop date.** If you stop attending without formally withdrawing, you will be administratively dropped with a grade of "F."

Dropped Grades

To support your success, the following lowest grades will automatically be dropped at the end of the semester:

- **One lowest homework grade**
- **One lowest lab grade**
- **One lowest exam grade** (this may include the final exam)

Use these as safety nets — not as excuses to skip work. Staying consistent will make your final grade much stronger.

Technology Policy

Technology can be a great tool — but it can also be a big distraction.

- **Cell phones and laptops** may be collected and held during lecture or lab if they become disruptive to you, your classmates, or the instructor.

- Exceptions will be made only for students with approved accommodations through **Special Services**.

To help you stay focused, I recommend putting your devices on **silent** and keeping them off the lab bench during experiments.

Academic Integrity: Plagiarism & Cheating Policy

Honesty and integrity are at the heart of learning — especially in science. Every assignment, lab report, and exam is designed to help *you* grow as a student and thinker. Cutting corners not only hurts your grade, but also your own understanding of the material.

You are expected to complete your own work on all quizzes, exams, assignments, and projects.

Any form of plagiarism or cheating will result in:

- An automatic zero (0) for the assignment or exam involved.
- Further consequences, including a possible "F" in the course, if the situation warrants.

If a student is caught cheating on a Major Exam, they will receive a zero that cannot be replaced by the Final Exam option — that score will stand.

What Counts as Plagiarism

Plagiarism means using someone else's words, data, or ideas as your own. This includes (but is not limited to):

1. Turning in a paper that was purchased, borrowed, or downloaded from another person or website.
2. Copying and pasting information from books, articles, or online sources without proper citation.
3. Using direct quotes (three or more words) without quotation marks and proper credit.
4. Missing in-text citations for ideas or data that are not your own.

When in doubt — cite it! If you're unsure whether something needs a citation, ask me before submitting your work.

What Counts as Cheating

Cheating means gaining an unfair advantage on any form of academic work. Examples include:

1. Stealing or sharing exam content before it's given.
2. Using unauthorized materials (notes, phones, apps, or the internet) during exams or quizzes.
3. Taking an exam for someone else or having someone take yours.
4. Copying another student's answers on homework, quizzes, or exams.
5. Altering grades or submitting altered work for regrading.
6. Taking photos of tests, test answers, or another student's paper.
7. Rewriting another student's work during peer editing so that it's no longer their original writing.

Bottom line: Academic integrity is about building trust — between you, your classmates, and me as your instructor. Mistakes can be forgiven, but dishonesty cannot. Protect your work, your integrity, and your learning.

Communication & Email Policy

Good communication helps everything run smoothly — especially in a course as fast-paced as Organic Chemistry! If you have a question, concern, or just need clarification, please don't hesitate to reach out.

How to Contact Me:

- **Email:** lalexander@southplainscollege.edu
- **Please do not use Blackboard messages.** They can easily get lost or overlooked. Always email through your **official SPC email account** for the fastest response.

Response Time:

- Emails received **Monday–Thursday (8:00 AM–3:45 PM)** will be answered within **48 hours.**
- Emails received after **3:45 PM on Thursday** or over a **weekend/holiday** will be answered within **48 hours of the next class day** after campus reopens.

Tip: If it's Friday evening, don't panic if you don't hear back right away — I'll respond as soon as the new week begins!

Email Etiquette & Online Conduct

Professional communication is part of your growth as a student — and as a future scientist or professional. When emailing or posting online (including Blackboard discussions or class group messages), please:

- Use a **respectful, courteous tone** — kindness goes a long way.
- Avoid profanity, sarcasm, or personal remarks.
- Keep messages clear and focused on the topic or question at hand.
- Sign your email with your **full name and course section** to help me respond quickly.
- If asking a question about a specific homework question please **include that question in the email.**

Our classroom — in person and online — should always be a space where everyone feels respected and able to learn. Disruptive or disrespectful behavior, in any form, will result in appropriate disciplinary action.

Remember: clear, polite communication helps me help you faster!

Technology Requirements

Because this course includes online components and digital assignments, it's important that you have access to reliable technology throughout the semester. Being prepared with the right tools will help you avoid unnecessary stress and stay successful in the course.

You will need:

1. **A reliable laptop or desktop computer** (not just a phone or tablet) with:
    - A stable **internet connection**
    - Adequate **storage space** for downloading and saving files
    - An updated **web browser** (Chrome recommended)

2. **A working webcam and microphone** for **Honorlock or other proctored exams.**
    - You are responsible for making sure your device and webcam are working before testing days.
    - We likely will not have proctored exams, but if it is needed please have the right equipment.
3. **The ability to create and submit PDFs.**
    - You'll need to know how to **take clear photos or scans of assignments** and **convert them to a single PDF file** before uploading to Blackboard.
    - Free scanning apps such as *Adobe Scan, Microsoft Lens,* or *CamScanner* work great for this purpose.
4. **Access to your SPC email and Blackboard** on your device.
    - Check both regularly for announcements, assignments, and important updates.

Tip: Technology issues happen — plan ahead and don't wait until the last minute to submit work or test your equipment.

If you experience ongoing technology difficulties, please contact the **SPC Help Desk** for assistance as soon as possible. Reliable technology is part of your responsibility in completing this course successfully.

Recommended Software & Apps

The following tools and programs will make your work in Organic Chemistry II smoother and more efficient. Most are **free or available through SPC resources.**

For Coursework & Organization

- **Microsoft Office (Word, Excel, PowerPoint)** – Available free through your SPC student account. Use Word for lab reports, Excel for data analysis, and PowerPoint for presentations.
- **OneDrive** – Great for saving backups of your work and sharing files securely.

For Chemistry-Specific Work

- **MolView (web-based, free)** – Helpful for drawing molecular structures and reaction mechanisms.
- **Organic Chemistry Model Kit App** *(or physical kit)* – Useful for visualizing stereochemistry and conformations.
    - **A physical kit** can be used during an exam, but an app may not be used.

For File Submissions

- **Adobe Scan**, **Microsoft Lens**, or **CamScanner** – Easy, free apps to scan handwritten work or lab reports into a single PDF file.
- **Adobe Acrobat Reader** – Lets you open, review, and combine PDF files for submission.

For Communication & Collaboration

- **SPC Email** – Check daily for announcements and communication from your instructor.
- **Blackboard App** – Handy for checking grades, assignment due dates, and course materials on the go (though you should still complete exams and uploads from a computer).

Tip: Download and test these tools early in the semester so you're confident using them before assignments and exams begin.

INSTRUCTIONAL POLICIES AND RESPONSIBILITIES

For information regarding official South Plains College statements about intellectual exchange, disabilities, non-discrimination, Title IX Pregnancy Accommodations, CARE Team, and Campus Concealed Carry, please visit https://www.southplainscollege.edu/syllabusstatements/.