

South Plains College
Common Course Syllabus: CHEM 2423
Revised: Fall 2020

Department: Science

Discipline: Chemistry

Course Number: CHEM 2423

Course Title: Organic Chemistry I

Available Format: Conventional, hybrid, online, as classroom size, enrollment, and the situation dictate.

Campus: Levelland

Course Description: Fundamental principles of organic chemistry will be studied, including the structure, bonding, properties, and reactivity of organic molecules; and properties and behavior of organic compounds and their derivatives. Emphasis is placed on organic synthesis and mechanisms. Includes study of covalent and ionic bonding, nomenclature, stereochemistry, structure and reactivity, reaction mechanisms, functional groups, and synthesis of simple molecules. THIS COURSE IS INTENDED FOR STUDENTS IN SCIENCE OR PRE-PROFESSIONAL PROGRAMS.

A laboratory-based course accompanies CHEM 2423. Laboratory activities will reinforce fundamental principles of organic chemistry, including the structure, bonding, properties, and reactivity of organic molecules; and properties and behavior of organic compounds and their derivatives. Emphasis is placed on organic synthesis and mechanisms. Includes study of covalent and ionic bonding, nomenclature, stereochemistry, structure and reactivity, reaction mechanisms, functional groups, and synthesis of simple molecules. Methods for the purification and identification of organic compounds will be examined.

Prerequisite: CHEM 1412 General Chemistry II
(Lecture + Lab)

Credits: Semester 4, Lecture: 3, Lab: 4

Textbooks:

- *Organic Chemistry*, 12th Edition, by Solomons, Fryhle & Snyder
- *Study Guide & Solutions Manual*, 12th Edition, by Solomons, Fryhle & Snyder
- *Microscale Organic Laboratory*, 6th Edition, by Mayo, Pike & Forbes
- *Organic Chemistry Fundamentals*, by Quick Study Academic (required)

- Organic Chemistry Student Laboratory Notebook (Hayden-McNeil)

Supplies:

- Mask (*must* be worn when class is in session – college policy)
- Laboratory safety glasses
- Box of laboratory gloves
- Scientific calculator

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: Upon successful completion of this course, students will:

Lecture

1. Classify organic compounds by structure, molecular orbitals, hybridization, resonance, tautomerism, polarity, chirality, conformation, and functionality.
2. Identify organic molecules using appropriate organic nomenclature.
3. Describe the principle reactions for syntheses of molecules, ions, and radicals.
4. Describe organic reactions in terms of radical and ionic mechanisms.
5. Describe the use of spectroscopic data to determine the structure of organic molecules.
6. Formulate appropriate reaction conditions for the synthesis of simple organic molecules.

Lab

1. Perform chemical experiments, analysis procedures, and waste disposal in a safe and responsible manner.
2. Utilize scientific tools such as glassware and analytical instruments to collect and analyze data.

3. Identify and utilize appropriate separation techniques such as distillation, extraction, and chromatography to purify organic compounds.
4. Record experimental work completely and accurately in laboratory notebooks, and communicate experimental results clearly in written reports.
5. Demonstrate a basic understanding of stereochemistry.
6. Classify organic compounds by structure, molecular orbitals, hybridization, resonance, tautomerism, polarity, chirality, conformation, and functionality in laboratory reports.
7. Identify organic molecules using appropriate organic nomenclature in laboratory reports.
8. Perform organic syntheses of molecules.
9. Describe organic reactions in terms of radical and ionic mechanisms in laboratory reports.
10. Use spectroscopic data to determine the structure of organic molecules.
11. Formulate appropriate reaction conditions for the synthesis of simple organic molecules.

Student Learning Outcomes Assessment: Questions from exams, with the number of right and wrong responses, will be sent to the department Taskstream coordinator at the

end of each semester. The coordinator will specify the topics to be assessed at the beginning of each semester.

Course Evaluation:

3 Lecture Exams @ 100 pts each	300 pts
1 Lab Exam @ 100 pts each	100 pts
1 Final Exam	100 pts
TOTAL	500 pts

Grade lines are firm, and will be drawn as follows. When posted, grades will not be changed, unless there has been an arithmetic error. Percentages are computed to the tenths place, and are not rounded up.

<u>Grade</u>	<u>Percent (%)</u>
A	≥ 90.0
B	≥ 80.0
C	≥ 70.0
D	≥ 60.0
F	< 60.0

Attendance Policy: Students are expected to attend all classes in order to be successful in a course. The student may be administratively withdrawn from the course when absences become excessive as defined in the course syllabus.

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. Instructors are responsible for clearly stating their administrative drop policy in the course syllabus, and it is the student’s responsibility to be aware of that policy.

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.

Plagiarism and Cheating: Students are expected to do their own work on all projects, quizzes, assignments,

examinations, and papers. 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.

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.
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 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 for assistance.

Note: The instructor reserves the right to modify the course syllabus and policies, as well as notify students of any changes, at any point during the semester.