# CLARENDON COLLEGE

## Division of Science and Health
## Chemistry Department
## Fall Semester 2023

**Course Name:** CHEM 2123 Organic Chemistry Laboratory

**Credit Hours:** 1

**Classroom Location:** Room 206 Instructional Center

**Office**: Room 210 Instructional Center

**Instructor:** Larry Wiginton, M.S. **Phone:** office 806-874-4828, cell 806-204-0023

**Email**: larry.wiginton@clarendoncollege.edu

**Office Hours:**

Monday - 8:00-11:00 AM
Wednesday, Friday - 8:00-10:00 AM
Tuesday, Thursday 8:00 AM – 9:30 AM

**Course Description:** Fundamental laboratory principles of chemistry for majors in the sciences, health sciences, and engineering; topics will provide practical laboratory experiences while enforcing concepts presented in 2323.

**Co-requisite:** Concurrent enrollment in Chemistry 2323

**Statement of Purpose:** The course is intended to prepare the student for future studies in chemistry and other related scientific areas. This course meets the core requirements of a laboratory science for the Associate in Arts or Associate in Science degree.

**Textbook:** Laboratory exercises will be provided to each student before each individual lab. A laboratory notebook is required which contains a formal write-up for each of eight laboratory exercises. Laboratory write-ups must follow the outline. The notebook will be turned in and graded for the write-up from the previous week at start of each week's laboratory exercise. Any late notebooks will have a 10 point deduction each week the write-up is late.

A table of contents will be placed on the left inside cover. In addition, a title page giving the student's name, the class and section, and the semester of the lab will be placed on the first lined page of the notebook. For each laboratory write-up, the right-hand side of each set of pages will contain the exact information found on page 3 of this handout. The left-hand side of each set of pages will be reserved for any data collected during the laboratory exercise including graphs, data tables, and calculations. Each page of the lab notebook should be numbered at the bottom center.

**Safety Quiz:** No student shall be allowed access to the laboratory for any experimentation without first taking a safety quiz over safety materials provided on the first day of lab each semester. Students must make 80% in order to pass the safety quiz and begin working in the laboratory.

**Grading:** One mid-term exam, and one final exam will be required with each comprising one third of the final lab grade. Late tests **will not** be allowed. The final one third of the grade will consist of the average of the eight write-ups. Each lab write-up grade is based 50% on the performance of the lab experiment and 50% on the write-up in the notebook. Upon 4 or less

lab reports being turned in, the student will receive an F in the course.

**Supplies:** A lab notebook is required for the laboratory and is available at the bookstore. Laboratory exercises will be given with sufficient time to allow each student to preview labs before performing the required experiments. The student will also need a lab apron and safety goggles which are to be worn during each and every lab. These items are also available at the bookstore. A scientific calculator is required for **each** student. Sharing of calculators during exams is prohibited. This calculator is to be brought to each lab session.

**Laboratory Equipment:** Students will be supplied with all chemicals and equipment necessary for the fulfillment of all exercises during the course of the semester. Students will be assigned lockers complete with glassware. Each student will check into the laboratory at start of the semester and check out at the end of the semester. Any broken or missing glassware will be the financial responsibility of the student. A $20.00 charge for lost keys will be assessed.

**Methods of Instruction:** Lecture, demonstration, laboratory reports, and individual experimentation.

**Absences:** Each lab must be performed in order to earn credit for the lab. Make-up labs for excused absences relating to school activities will be completed within one week of the originally scheduled lab period. Make-up labs for any other absences will be allowed only at the discretion of the instructor. Failure to do the lab within the allowed time will result in a student receiving a zero for that lab exercise.

**Clarendon College Campus Carry Policy:** Please click the following link to become informed about our campus carry policy: http://www.clarendoncollege.edu/CampusCarry

**Core Objectives Critical thinking skills (CT)** – to include creative thinking, innovation, inquiry, and analysis, evaluation and synthesis of information **Communication skills (COM) –** to include effective written, oral, and visual communication **Empirical and quantitative skills (EQS)** – to include applications of scientific and mathematical concepts **Teamwork (TW)** – to include the ability to consider different points of view and to work effectively with others to support a shared purpose or goal.

**Learning Outcomes:** Upon successful completion of this course, students will:

1. Define the fundamental properties of matter.
2. Classify matter, compounds, and chemical reactions.
3. Develop an understanding of simple and fractional distillation
4. Write chemical formulas.
5. Write and balance equations.
6. Use the rules of nomenclature to name organic compounds.
7. Define the types and characteristics of chemical reactions.
8. Determine melting points of organic substances
9. Compare alkanes and alkenes
10. Develop acceptable laboratory techniques.

**Assessment:** These outcomes will assess CT and EQS objectives with embedded questions.

**Grading Scale for the course:**

| Letter Grade | Numeric Grade |
|---|---|
| A | 90-100 |
| B | 80- 89 |
| C | 70- 79 |
| D | 60- 69 |
| F | 59 and below |

**Classroom Policies:**

**Technology:**

**Calculators:** A scientific calculator is required for use on exams. The calculator should support scientific notation (e.g. "1.1E+01"), and a typical set of scientific functions including trigonometric, exponential and logarithmic functions. A graphing calculator may be used if you demonstrate that the memory has been cleared. You may not share a calculator. Laptops, tablets, cellphones or any device with wireless communication capabilities are prohibited during an exam.

**Cellphones:** Cellphone use is prohibited. They must be turned off or on silent and in your backpack, purse, or pocket. No calls, no texting, and no internet access is permitted unless prior arrangements have been made with me.

**Classroom and Zoom Meeting Conduct:** I will show you the respect you deserve as a student. I, in return, expect respectful behavior from you. Because the following actions cause disruption in the classroom and therefore affect the ability of students to learn, I have strict policies concerning them.

**Disrespectful behavior includes…**

- **Arriving late to class or lab.**
- **Leaving the room during class or lab time.** Plan restroom visits before or after class—not during class. If special needs exist, please make prior arrangements.
- **Using distracting electronic communication devices during class or lab.** This includes cell phones, laptops, tablets, etc. for purposes that are not related to coursework.
- **Sleeping in class.**
- **Talking in class about non-relevant topics.** Class time is not for visitation with fellow classmates.
- **I do NOT allow abusive, obscene, or offensive clothing, jokes, or behavior.**
- **Disrespectful behavior could result in your being asked to leave the class.**

**Absences:** Attendance will be recorded each day. Data indicates that higher attendance rates increase the chance a student will complete the course with a passing grade. Be on time. If you are not present when attendance is taken, you will be counted absent. This semester we will be using a pilot program in which you will swipe your I.D. card when you enter class. Attendance is recorded automatically. Bring your student I.D. with you to class! If you are going to miss an exam with a college excused absence, contact me prior to missing the exam to make arrangements to take the exam early. Documentation will be required for college excused absences. If prior contact is impossible you must contact me by the end of the second working day after the absence to arrange for make-up work.

**College Policies**

**Academic Integrity Policy**: Clarendon College is committed to a philosophy of honesty and academic integrity. It is the responsibility of all members of the Clarendon College community to maintain academic integrity at Clarendon College by refusing to participate in or tolerate academic dishonesty. Any act of academic dishonesty will be regarded by the faculty and administration as a serious offense.

Academic dishonesty violations include, but are not limited to: (1) obtaining an examination, classroom activity, or laboratory exercise by stealing or collusion; (2) discovering the content of an examination, classroom activity, laboratory exercise, or homework assignment before it is given; (3) observing the work of another during an examination or providing answers to another during the course of an examination; (4) using an unauthorized source of information during an examination, classroom activity, laboratory exercise, or homework assignment ; (5) entering an office, classroom, laboratory, or building to obtain unfair advantage; (6) taking an examination for another person; (7) completing a classroom activity, laboratory exercise, homework assignment, or research paper for another person; (8) altering grade records; (9) using any unauthorized form of an electronic communication device during an examination, classroom activity, or laboratory exercise; and/or, (10) plagiarism. (Plagiarism is defined as the using, stating, offering, or reporting as one's own, an idea, expression, or production of another person's work without proper credit. This includes, but is not limited to, turning in a paper purchased or

acquired from any source, written by someone other than the student claiming credit, or stolen from another student.)

Students are responsible for reporting known acts of academic dishonesty to a faculty member, the program coordinator, the associate dean, and/or dean. Any student with knowledge of a violation who fails to report it shall him/herself be in violation and shall be considered to have committed an act of academic dishonesty. Additionally, any student who reports him/herself in violation of this code before it is likely that another might consider this possibility will be understood as repentant and acting in good faith. Though the confession will not excuse the student for the violation, the confession will be considered, and the violation should not result in suspension from school except in the most extreme cases.

While academic integrity and honesty are the responsibility of the individual student, each individual faculty member, teaching assistant, and/or laboratory instructor is responsible for classroom management and for maintaining ethical behavior within the classroom and/or laboratory.

Faculty who discovers or suspect a violation should discuss the matter with the suspected violator(s) and attempt to resolve the case at that point. In cases of convincing evidence, the faculty member should take appropriate action. The faculty member and student should complete a Counseling Sheet regarding the violation. (The Counseling Sheet should contain at a minimum the date and time of the violation, the course, the instructor's name, the student's name, an explanation of the infraction or facts of the case, and the resolution to the incident.) This form should be signed by the student, faculty member, program coordinator, and the Vice President of Student Services. The Vice President of Student Services will maintain a file on all violations. If a faculty member prefers to report the case directly to the Vice President of Student Services, it remains his/her prerogative to do so. Additionally, if the faculty member and the accused student cannot reach a resolution or if the faculty member believes that suspension from school is the only fair sanction, the case should immediately be reported by the faculty member, in writing, to the Vice President of Student Services. If the Vice President of Student Services observes any trends in student behavior which involve more than one violation or act of academic dishonesty, the Dean is responsible for notifying all faculty members involved, for contacting the student(s) involved, and after consultation with the faculty member(s) involved for taking the appropriate action. The Vice President of Student Services is responsible for the timely notification (normally within two weeks) to all parties of an action taken.

Students wishing to appeal a disciplinary decision involving academic integrity or acts of academic dishonesty may do so through the Student Appeals and Grievance Procedure.

**Withdrawal (Dropping the Course):** If you decide that you are unable to complete this course or that it will be impossible to complete the course with a passing grade, you may drop the course and receive a "W" on your transcript instead. (The last day to drop a course is available on the Academic Calendar, located at the Student link on the Clarendon College website.) Withdrawal from a course is a formal procedure that you must initiate. If you do not go through the formal withdrawal procedure, you will receive whatever grade you have earned.

Whether to drop a class or not requires a lot of thought. According to Texas state law a student is only allowed to drop the same class twice before he/she will be charged triple the tuition amount for taking the class a third time or more. Furthermore, beginning with the Fall 2007 semester, students in Texas may only drop a total of 6 courses throughout their entire undergraduate career. After the 6th dropped class, he/she will no longer be able to withdraw from any classes.

**Accommodations Statement**: Clarendon College provides reasonable accommodations for persons with temporary or permanent disabilities. Should you require special accommodations, notify the Dean of Student Services. The Chemistry Department will work with you to make whatever accommodations necessary.

**Course Outline:**

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|---|---|
| Lab 1 | Check in, assign lockers, and cover laboratory safety |
| Lab 2 | Laboratory Safety Quiz (must pass to do laboratory exercises) |
| Lab 3 | Exp. 1: Melting points |
| Lab 4 | Exp. 2: Crystallization |
| Lab 5 | Exp. 3: Simple Distillation |
| Lab 6 | Exp. 4: Fractional Distillation |
| Lab 7 | Mid-term Quiz |
| Lab 8 | Exp. 5: Colligative Properties of Solutions |
| Lab 9 | Exp. 6: Thin Layer Chromatography - Analgesics |
| Lab 10 | Exp. 7: Thin Layer Chromatography – Lycopene from Tomato Paste |
| Lab 11 | Exp. 8: Extraction of Caffeine |
| Lab 12 | Check out |
| Lab 13 | Lab Final |

Class Contract