

CHEM 246 – Fundamentals of Organic Chemistry Laboratory

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Office Hours: Tuesdays 10-11, Thursdays 1-2.

CHEM 246 has special add/drop dates. The drop period ends January 19th and the add period ends January 21st. After January 19th, you will not be able to drop the course, and you will not be able to Withdraw via RamWeb. Withdrawals or “W drops” are only authorized under extraordinary circumstances, with documentation. This is available for students facing circumstances beyond their control and not an option for students who are unhappy with their performance.

Course Information. CHEM 246 is a one-credit laboratory course. Lab sections meet for 1 hour and 50 minutes once per week.

Required Materials

- Disposable Nitrile Gloves: Available from the Chemistry Department Stockroom, on the first floor of the chemistry building in the D wing.
- Safety Goggles or Safety Glasses: Available at the bookstore or the Chemistry Department Stockroom, on the first floor of the chemistry building in the D wing.
- Lab Experiments: Posted online on the Canvas course website. It is your responsibility to download and print the experiments in a timely manner so that you can complete your pre-lab work. Note that the labs are posted in **alphabetical** order. You must check the schedule before printing.

Bring appropriate safety goggles or glasses. You must wear a shirt with sleeves (short or long, but not sleeveless), long pants and shoes with a closed toe and heel. **You will not be allowed to do experiments without safety goggles or glasses, appropriate clothing and shoes.** The organic stockroom will not sell or rent safety goggles. For safety reasons cell phones should be turned off. No earbuds or headphones are allowed in lab.

Always check the schedule of experiments. The experiments are not done in the order they appear on Canvas. There is considerable work to be done in preparation for an experiment – make sure you have prepared for the right experiment.

Makeup labs

Attendance is mandatory for all organic chemistry laboratory experiments. Experiments must be supervised and must be completed in the time scheduled. Due to at capacity enrollments, you are not guaranteed the opportunity to make up an experiment for any reason. If you must miss a lab for a University excused absence, you must notify Patty Somers at patty.somers@colostate.edu at least one week prior to the scheduled lab period. Be sure to include your name, course and section number and the name of the experiment that you wish to make-up. **If you are absent from lab the day a lab report is due, you must**

make arrangements for the lab report to be turned into your TA or the organic stockroom, so that it's not turned in late.

Course Goals

In this class, you will learn basic organic chemistry laboratory technique and conduct experiments in simple chemical synthesis. In addition to the time spent in the lab, you should expect to spend three hours per week on this course outside of the lab, completing lab write-ups, pre-labs, and studying for quizzes.

Good record keeping is tantamount to your success in the course. You must keep track of your data during the course of an experiment. Data without analysis does not suffice however, if you wish to be successful in this course, you must analyze your results carefully and thoughtfully in your lab write-ups.

This is a course that emphasizes critical thinking. Your TA, the instrument room staff and the lab coordinator are here to help you, but you should not expect them to provide answers without ascertaining the degree of thought you've put into a question. Quizzes and lab write-ups require you to think and analyze data, not recite the contents of the lab manual.

Grading

Your grade for this laboratory course will be based on the total number of points you can accumulate during the semester on quizzes and lab reports. Points may be earned from each of the categories listed below. The lowest quiz score and lowest lab report score will be dropped. **A 5% grading penalty will be imposed for not completing check-out.**

Daily Technique Grade: (5 pts each lab period)

Daily Technique Grade: Each student will earn five points per day if all safety rules are obeyed and the lab is left in acceptable condition at the end of the class. In order to earn these points, everyone must be dressed appropriately, including safety glasses, at all times. The lab must be clean – the back bench, balances and sinks must be wiped down and the vacuum traps must be emptied. All equipment must be returned neatly to its appropriate shelf. All clamps, stands, hotplates, mel-temps and other equipment/glassware must be removed from the hood, and the hood must be cleaned and wiped down. All reagent jars and waste bottles must be capped. If even one person does not comply with these requirements, the entire class will lose their points for the day.

Quizzes:(15 pts each)

Quizzes will be given at the beginning of the lab period and will usually contain questions from the previous experiment as well as the experiment for that day.

Lab Report: (40 pts) Lab reports are graded as described below.

Pre-lab: Each experiment has a pre-lab component to complete before coming to lab. Your TA will sign-off on your pre-lab before you will be permitted to begin the experiment.

Observations: Points earned based on **writing observations during lab.** Should include observations such as actual balance readings, precipitate formed, color change, solid dissolved, unexpected problems, etc. Your TA will sign off on your observations before you leave the lab.

Results and Analysis: Include any careful thoughts to problems encountered, what happened and why. Points will be assigned based on the depth of thought put into the analysis of the results.

Post-Lab Questions

Points earned on questions.

Course Grade.

A standard grading scheme will be used: 90-100% will be the A- to A+ range, 80-89% the B- to B+ range and 70%-79% the C to C+ range, 60%-69% the D range and 59% and below will be an F. The instructor, in consultation with the TA, will determine a final grade in the course for each student. Grading will be normalized across sections. Plus and minus letter grades will be given. **A 5% grading penalty will be imposed for not completing check-out.**

Academic Dishonesty

All cases of suspected academic dishonesty will be reviewed. If a student is found accountable for academic dishonesty, a grade penalty will be imposed and the incident reported to the Office of Student Conduct. Academic dishonesty in this course includes, but is not limited to, falsifying experimental data, copying, in whole or in part, another student's lab report or bringing information for a quiz in electronic or written form.

Late Penalties

Lab reports are due at the beginning of the next lab period following the completion of the lab. For every 24 hours that a lab report is late, 5 points will be deducted. After 72 hours, the lab report will not be accepted. If you are absent from lab the day a lab report is due, you must make arrangements for the lab report to be turned into your TA or the organic stockroom.

Your graded lab report should be returned to you within one week of the due date. If your graded lab report is not returned to you within one week, please notify the laboratory instructor (contact information is at the top of the syllabus.)