

Introduction to Organic & Biological Chemistry Laboratory

Chmy 124 Fall 2016

Instructor Information

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Office Hours: Monday 9:10-10am

Course Description

Chmy 124 provides an introduction to general, organic and biochemistry laboratory skills and concepts. Students synthesize organic compounds or isolate them from biological materials, purify and analyze the compounds using "wet chemistry" and instrumental methods. Students practice careful measurements and observations, develop quantitative relationships between variables, apply patterns determined with known samples to unknown materials, and practice critical thinking skills.

Chmy 123 is a pre-/co-requisite for this course. Chmy 121 or equivalent general chemistry course is a pre-requisite for Chmy 123 and 124.

Weekly Schedule

Pre-Lab Meeting: M 8:00-*:50 am Chem 123

This meeting prepares you to understand the experiments and to work safely and efficiently. Attendance is mandatory.

You should take good notes during pre-lab lecture to be prepared for lab and for the exams.

Laboratory Sections:

Individual lab sections meet on Tuesday and Friday.

You must attend the section for which you are registered.

Course Materials and Electronic Devices

- Chmy 124 CoursePac (available in bookstore, required)
- Safety Goggles, green with elastic strap (available in bookstore, required)
- Sharpie® felt-tip pen (available in bookstore, not required)

- calculator (required; cell phone use is not permitted in lab)

- Several weeks during the semester, you will be asked to bring laptop/tablet to lab.
Students without these devices can use the limited number of computers available in the Learning Center in Chem 107.

*Spectroscopy data, practice problems and exam study guides will be posted on the Chmy 124 Moodle site.

Student Conduct

All students must practice academic honesty. Academic misconduct is subject to an academic penalty by the course instructor and/or a disciplinary sanction by the University. All students need to be familiar with the Student Conduct Code. The University of Montana Student Conduct Code is available at http://www.umt.edu/vpsa/policies/student_conduct.php.

The majority of Chmy 124 students are honest and responsible and the student conduct code is enforced to protect that majority of students. Be advised that I do enforce the Student Conduct Code in order to protect the honest students from academic misconduct. Any example of representing another person's work as your own – whether this is another student, the internet, google, Wikipedia or any other source – is considered academic misconduct.

Disability Modifications

DSS students, please contact me the first week of the semester to arrange accommodations, even if you do not yet have your DSS letter. If you think you may have a disability adversely affecting your academic performance, please contact DSS, Disability Services for Students (Lommasson 154, 243-2243).

Grades and Grading

TAs grade using a detailed key. If you have any questions about grading, first ask your TA. If you still have questions, you must bring your report or exam to ~~Dr. T.~~ Dr. Martin within one week after it has been returned to you in order to have it checked. Please include a written explanation of your questions about the grading.

195 · points shown are total for lab reports + protocols
 exp 1 (15), exp 2 (20), exp 3 (20), exp 4 (20), exp 5 (40), exp 6 (25),
 exp 7 (20), exp 8 (20), exp 10 (15)
40 · pop quizzes (given at unannounced intervals during M pre-lab meetings)
80 · two exams
315* · total pts

Letter grades will be based on the total out of 315* possible pts.
Final grades are assigned using the classic 90/80/70/60: A-F grading system.
Curving of this grading system is at the discretion of the instructor. However an aggregate grade of 90.00% or above guarantees an A- or better, 80.00 % a B- or better, 70.00 % a C- or better.

A grade lower than 60% is not considered a passing grade.

Explanation of Lab Protocols and Reports

Lab protocols are outlines of the procedures that you will do in the laboratory. Writing protocols each week ensures that you have a reasonable understanding of the lab exercise, so that you can work safely and efficiently.

PAY ATTENTION BECAUSE THIS NEXT BIT IS IMPORTANT:

If you do not have a complete protocol ready to be initialed by the TA within the first 5 minutes, you cannot start the lab and you will receive a zero for the exercise.

Lab protocols:

- can be hand-written or done on the computer and printed out.
- must provide all of the information needed to complete that experiment other than general lab techniques (such as using balances or volumetric devices)
- must provide information from tables if needed to complete the experiment
- must be in your own words (no scanning or photocopies)
- must include safety notes

Lab reports are based on the tear-out report sheets at the end of each exercise.

Lab reports stapled to appropriate protocols are due as indicated on the first page of the report: either by the end of the lab period or during the first 5 minutes of the next lab period.

Late penalty of 20% per day will be assessed after the due time. Late penalty also assessed for late protocol, graphs, etc.

Chmy 124N Schedule Fall 2016

Week of: Experiment

Aug 29	Introduction, Procedural and Safety Issues	No labs this week
Sept 05	Monday is Labor Day, no pre-lab lecture Come to lab this week Lab Locker Check-In Experiment 1: Automatic Pipet Practice	
Sept 12	Experiment 2: Density and Composition of Solutions	
Sept 19	Experiment 3: Synthesis, Purification and Analysis of Aspirin	
Sept 26	Experiment 3: Synthesis, Purification and Analysis of Aspirin (cont.)	
Oct 03	Experiment 4: Introduction to Chromatography	
Oct 10	Experiment 5: UV-Visible Spectroscopy, Absorption Spectra of Plant Pigments	
Oct 17	Experiment 5: UV-Visible Spectroscopy, Absorption Spectra of Plant Pigments (cont.)	
Oct 24	Experiment 6: UV-Visible Spectroscopy, Quantitation of Protein	
Oct 31	Experiment 8: Life Sciences Databases/MSDSs Experiment 10: HPLC	
Nov 07	Exam 1 (on Monday pre-lab lecture time) No labs this week. Election Day Nov 8 and Veterans Day Nov 11. Please use the time to vote and honor veterans.	
Nov 14	Experiments 8, and 10 (cont.)	
Nov 21	Wednesday-Friday Thanksgiving Holiday, no labs or classes this week	
Nov 29	Experiment 7: Fischer Esterification Part A	
Dec 05	Fischer Esterification Part B; Clean up and Lab Locker Checkout.	
Dec 12	Exam 2 (on Monday pre-lab lecture time)	
Dec 16	No final exam for Chem 124.	