

Chmy 124N Intro to Organic & Biological Chemistry Laboratory Spring 2012

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Office Hours: Monday 9-10am, Tuesday 10-11 am and by arrangement

Chmy 124N satisfies the laboratory component of general education Group XI, Natural Sciences. Students synthesize organic compounds or isolate them from biological materials, purify and analyze the compounds using methods and instrumentation typically used in research laboratories. Students also develop quantitative relationships between variables, apply patterns determined with known samples to unknown materials, and practice critical thinking and problem solving.

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

Pre-Lab Meeting:

M 12:10-1:00 pm UHL 101

This meeting prepares you to do the experiments safely and efficiently.

Attendance is mandatory. Students who miss two pre-lab lectures will be required to check in with me during pre-lab lecture in order to do the experiment that week.

Laboratory Sections:

Individual lab sections meet on Tuesday and Thursday mornings (9-12) and afternoons (1-4). You must attend the section for which you are registered.

Supplies for Lab (all available in bookstore):

- Organic and Biological Chemistry Laboratory CoursePac
- Safety Goggles-Department policy requires all persons in the laboratory to wear approved safety goggles.
- Sharpie® felt-tip pen for writing on glass

*Spectroscopy data and study guides for the exams will be posted on the electronic reserve site at <http://eres.lib.umt.edu/eres> . Password is CHMY124.

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 Code is available at <http://www.umt.edu/SA/VPSA/indec.cfm/page/1321> .

The majority of Chmy 124 students are honest and responsible. Be advised that I do enforce the Student Conduct Code in order to protect the honest students from academic misconduct.

Texting, private conversations and early departures from the lecture hall are disruptive. Please respect your colleagues. If either issue becomes a problem during the semester, I will institute appropriate responses.

Grades will be based on the following components:

210 pts	• lab reports + protocols exp 1 (15), exp 2 (20), exp 3 (20), exp 4 (20), exp 5-1 (15), exp 5-2 (25) exp 6 (35), exp 7 (20), exp 8 (20), exp 9 (10), exp 10 (10)
50 pts	• pop quizzes (unannounced, during M pre-lab meetings)
<u>80 pts</u>	• exams, exam 1 (35), exam 2 (45)
340 pts	• total

Letter grades for the course will be assigned as follows:

	≥93.33% guarantees A	≥90.00% guarantees A-
≥86.67% guarantees B+	≥83.33% guarantees B	≥80.00% guarantees B-
≥76.67% guarantees C+	≥73.33% guarantees C	≥70.00% guarantees C-
≥66.67% guarantees D+	≥63.33% guarantees D	≥60.00% guarantees D-
<60.00% guarantees F		

Lab protocols are outlines of the procedures that you will do in the laboratory. The purpose of writing these protocols each week is to ensure that you have read and understood the lab exercise, so that you can work safely and successfully.

If you do not have a complete protocol ready to be initialed by the TA within the first 15 minutes, you cannot start the lab and you will receive a zero for the exercise.

A protocol:

- includes all of the specific information needed for someone who knows general laboratory technique to successfully perform the experiment.
- includes all relevant safety information
- includes information about safe disposal of materials
- is written in your own words and is legible

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 before the end of the lab period or during the first 15 minutes of the next lab period. Late penalty of 20% per day will be assessed after the due time. (Penalty also assessed on protocols, graphs, etc that are turned in late.)

Spring break runs from Saturday, March 31, through Sunday, April 8. There will be no make-up opportunities for students taking an extended vacation.

Chmy 124 Schedule-Spring 2011

Week of:	Experiment
1/23	Introduction
1/30	Check-in, Safety Training Experiment 1: Automatic Pipet Practice
2/06	Experiment 2: Density and Composition of Solutions
2/13	Experiment 3: Synthesis, Purification and Analysis of Aspirin
2/20	President's Day holiday (no prelab lecture) Experiment 3: Aspirin (continued)
2/27	Experiment 4: Introduction to Chromatography
3/05	Experiment 5: UV-Visible Spectroscopy, Absorption Spectra of Plant Pigments
3/12	Exam 1 (covers experiments 1-4, held during prelab lecture) Experiment 5: UV-Vis (continued)
3/19	Experiment 6: UV-Visible Spectroscopy, Quantitation of Protein
3/26	Experiment 7: Fischer Esterification
4/02	Spring Break
4/09	Experiment 7: Fischer Esterification (continued)
4/16	Experiment 8: Life Sciences Data Bases/MSDS Experiment 9: Gas Chromatography Experiment 10: HPLC (High Performance Liquid Chromatography)
4/23	Experiments 8, 9 and 10 (continued)
4/30	Exam 2 (covers experiments 5-10, held during pre-lab lecture) Check-out
5/07	Finals Week Friday May 11, 10-12 is scheduled for the Chmy 124 final exam. We will not have a final exam, due to conflict with 123 final.