1-2015

CHMY 124.00: Introduction to Organic & Biochemistry Laboratory

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Introduction to Organic & Biological Chemistry Laboratory

Chmy 124 Spring 2014

Instructor Information

Instructor: Dr. Holly Thompson
Office : Chem Building 402
Phone/email: 243-2070 holly.thompson@umontana.edu (best contact)
Office Hours: Monday 9:10-10am, Tuesday 10:10-11am and by arrangement

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.

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.

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

Weekly Schedule

Pre-Lab Meeting: M 12:10-1:00 pm ULH 101

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

Laboratory Sections:

Individual lab sections meet on Tuesday and Thursday in the mornings (9-noon) and afternoons (1-4).
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.

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/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.

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

215*	· 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
310*	· total pts

*Subject to change based on availability of experiment 9.

Letter grades will be based on the total out of 310* possible pts. 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		

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.

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 word-processed
· 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.

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Week of:	Experiment
Jan 26	Introduction, Procedural and Safety Issues
Feb 02	Lab Locker Check-In Experiment 1: Automatic Pipet Practice
Feb 09	Experiment 2: Density and Composition of Solutions
Feb 16	President's Day, no pre-lab lecture, but we will have lab this week Experiment 3: Synthesis, Purification and Analysis of Aspirin
Feb 23	Experiment 3: Synthesis, Purification and Analysis of Aspirin (cont.)
Mar 02	Experiment 4: Introduction to Chromatography
Mar 09	Experiment 5:UV-Visible Spectroscopy, Absorption Spectra of Plant Pigments
Mar 16	Experiment 5: UV-Visible Spectroscopy, Absorption Spectra of Plant Pigments (cont.)
Mar 23	Experiment 6: UV-Visible Spectroscopy, Quantitation of Protein
Mar 30	Spring Break
Apr 6	Experiment 7: Fischer Esterification
Apr 13	Exam 1 covers Experiments 1-6 Experiment 7(cont.)
Apr 20	Experiment 8: Life Sciences Data Bases/MSDS Experiment 10: High Performance Liquid Chromatography no protocols needed
Apr 27	Experiment 9: Gas Chromatography or alternative
May 4	Exam 2 covers Experiments 7-10 Check-out
May 15	Friday, 10-noon scheduled final exam No final exam in Chmy 124. Scheduled final exam time used to complete any unfinished business.