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CHMY 224.00: Organic Chemistry II Lab

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Organic Chemistry II Lab syllabus

Instructor

- Nigel Priestley, Chem 312A, nigel.priestley@umontana.edu
 - o Office hours by appointment

Teaching assistants

- Evelyn Schwartz: evelyn.schwartz@umontana.edu
 - Office hours by appointment
- Allison Kelly: allison1.kelly@umontana.edu
 - o Office hours by appointment

Section 01 MW 1-3 PMAllison KellySection 02 TR10-12 AMAllison Kelly and Evelyn SchwartzSection 03 -Evelyn Schwartz

Purpose

- Perform standard organic chemical reactions
- Use organic purification techniques
- Gain expertise in organic spectroscopy
- Practice scientific writing
- Develop a knowledge and understanding of the world at the molecular level

Requirements

- CHMY 222
- CHMY 223 is a pre- or corequisite

Requirements

- A bound notebook of any type
- Splash-protection safety goggles

Optional reading

• Pavia, D.L., Lampman, G.M., Kriz, G.S., and Engel, R.G., 4th ed., (2007), Thomson Brooks/Cole, Belmont, California; ISBN-10: 1133106528

Format

- Each section has two hours of lab 2x a week
- A mini-lecture on procedures, methods, and safety will occur in lab as needed
- Class time will be spent in the labs located in Clapp Building (CHCB) 213 or 217

Disabilities

• Any student with a disability that may hinder a full demonstration of their abilities in this course should contact Prof. Priestley during the first week of classes to discuss accommodations necessary to ensure full participation and facilitate your educational opportunities

Legal notice

- The course syllabus and other documents pertaining to grading and scheduling are not a contract; they are tentative outlines for the course
- Changes may be made during the semester at the discretion of Prof. Priestley

Academic misconduct

- All students must practice academic honesty
- Academic misconduct is subject to an academic penalty by the course instructor and a disciplinary sanction by the University of Montana
- All students must be familiar with the Student Conduct Code

Grading

• Point distributions and percentages of total points are:

| | | % of total | |
|---|--------|------------|-----------|
| Point breakdown | Points | points | Grade |
| 7 Lab reports @ 70 points each | 490 | 90 %–100 % | A-, A |
| 7 Moodle Pre-lab quizzes @ 25 points each | 175 | 80 %–89 % | B-, B, B+ |
| Lab participation for 7 labs @ 15 points each lab | 105 | 70 %–79 % | C-, C, C+ |
| Lab notebook for 7 labs @ 15 points each | 105 | 60 %–69 % | D-, D, D+ |
| Total | 875 | 0 %–59 % | F |

Lab reports

- Refer to lab-specific rubrics and the "Lab report example" document for more details
- Lab report formatting
 - Single spaced
 - Justified text
 - You may hand-write chemical structures and calculations, if they are legible
 - Concise and clear reports help the TAs assess your work
- Lab reports are due one week following the last scheduled day of the lab
 - Late lab reports are penalized five points for each lab period they are late

Pre-lab quizzes

- Before arriving to the first day of a given lab, study all relevant documents, and take the Moodle Pre-lab quiz
 - These quizzes close after the first day of a given lab, so take them in advance

Lab participation

- Your grade will depend on the following:
 - Attendance
 - o Ability to properly set up reactions and use instrumentation
 - Adherence to safety rules
 - Maintenance of clean working conditions
 - Always clean up after yourself—your own bench area after completion of an experiment and all common areas
 - Completing lab tasks in a timely manner

Lab notebook

- Notebooks must have a permanent binding of some sort
- Please include the following:
 - Title of the experiment
 - Introduction
 - Briefly state the purpose of the lab
 - i.e. Chemicals synthesized, methods and techniques learned, chemical understanding gained
 - Reaction (if applicable)
 - Use the following formatting:

| Reactants (use chemical formulas or diagrams) | Reaction conditions: Temperature Duration of reaction Solvent | Products |
|--|--|----------|
|--|--|----------|

- Table of chemicals used, include:
 - Name of chemical
 - Diagram of compound ("zig-zag" formula)
 - Safety information
 - Molecular weight
 - Physical properties
 - (Many of the chemicals used can be found on
 - http://www.sigmaaldrich.com/united-states.html)
- Procedure
 - This may be printed from Moodle and pasted in your lab notebook
- Significant actions and observations in lab must be recorded, along with the time
- All changes to the procedure must be noted
- Remember to include units with every number
- If a mistake is made:
 - Draw one or two lines through it
 - Enter the correct information
 - Do not obliterate an incorrect entry or remove pages
- Your notebook will be checked off by your TA periodically