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## CHEM326: Biochemistry I Laboratory (Fall 2025)

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Lab: Caputo 225	Wednesday: 2:00 - 4:50	(Lab A)
Dr. Aimee L. Miller	Office Hours: (also by appointment)	
<a href="mailto:aimee.miller@millersville.edu">aimee.miller@millersville.edu</a>	Monday:	11:00 - 1:00
Caputo 325	Wednesday:	11:00 - 12:00
717-871-7414	Thursday:	11:00 - 1:00

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### Course description and objectives:

The lab in CHEM326 is designed to introduce students to general biochemical principles and methods. Each week students prepare for, carry out, and report on an experiment. The focus is to give experience in a range of fundamental biochemical techniques.

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### Required Supplies

Lab Instructions (provided in class/lab)      Notebook (perm-bound comp book)

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### Course Policies

- **Attendance:** Students **must** complete every experiment. If you cannot attend a scheduled lab for approved reasons in the University-Approved Guidelines, please contact your instructor as soon as possible to arrange an alternate time.
  - **Academic Honesty:** Students are expected to conduct all work in an honest and ethical manner consistent with University policy. Labs are carried out with a partner and discussion of results, concepts, and analysis is encouraged. However, all written work must be independent work.
  - **Safe & Cooperative Environment:** Lab instructors help guide your experimentation. You are expected to follow all directions regarding safety precautions and lab attire. Your legs and feet should be covered at all times and gloves and goggles worn as recommended. Please notify your instructor of any special concerns (allergies or pregnancy) that might require alternate arrangements for your work. You must also keep lab equipment and spaces clean and tidy. Failure to follow these rules may incur a penalty.
  - **All policies** related to the CHEM 326 lecture apply to lab as well.
  - **Notebook:** Students **must** record details of their lab work by hand directly into a bound notebook during the lab session. Notebooks will be turned into the instructor by **4 pm Friday**. Work may be scanned to pdf for reference while completing Post-Lab questions. Failure to record data appropriately may incur a penalty up to 10%.
  - **Reports:** Data analysis and experimental interpretation may be completed after lab. Related jpg/png files will be needed to complete Post-Lab Analysis questions in D2L within a week of finishing an experiment.
  - **Submissions:** Students are expected to complete lab assignments according to the weekly deadlines. Late submissions may incur a penalty up to 10% per day.
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### Assessment Components:

- **Pre-Lab D2L Quiz:** Complete by **8 am Wednesday**.
  - **Notebook:** Record all data and include example calculations in your notebook. Answer post-lab questions in your notebook and turn in by **4 pm Friday**.
  - **Post-Lab:** Upload graphs and figures to D2L by **4 pm Friday**.
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## Lab Notebooks

### Pre-Lab Preparations:

- **Table of Contents:** Maintain a list of titles and pages for each lab.
- **Background:** Review all materials provided in D2L to prepare for each planned lab.
- **Protocol:** Cut and tape the provided protocol print-out into the notebook for reference during lab.
- **Pre-Lab Questions:** Complete the D2L Quiz (*unlimited attempts*)
- **Title & Date:** Start recording each experiment with its title on a new page.
- **Purpose Statement:** Write a brief rationale for the experiment, stating what will be evaluated and the method to be used. (*Note:* experience with techniques is **NOT** the purpose of any experiment.)

### During Lab:

- **Primary Data:** Relevant information **MUST** be recorded by hand as you do each experiment. This portion of your notebook does **NOT** need to be neat but must be complete and clearly labeled.
  - **Date:** Record the date on which work is done. Add a second date as appropriate.
  - **Experimental Record:** Methods in the protocol do **NOT** need to be rewritten. However, you **DO** need to record any measurements taken (volumes, masses, etc.) and indicate solution info (conc, pH). An assay run on multiple samples may be summarized once. You should also make notes about any procedure changes or any problems that may have affected your results.
  - **Collected Data:** Record **ALL** data, including **UNITS**, directly into your notebook. Use labeled tables and sample descriptions when possible (rather than 1, 2, 3 etc). Each person should have **ALL** data recorded by hand in their own notebook even when collected as a group.

### After Lab:

- **Analysis:** Your data analysis and results will be used for reporting on each lab.
    - **Data Analysis:** Graphs or tables should have a *descriptive* title related to data shown underneath the graph. When using linear regression analysis, both the equation of the line and the  $R^2$  value should be displayed. Data tables are needed only if they show analyzed results beyond primary data already recorded by hand. Please save or capture as jpg/png file to paste into corresponding question response field in D2L.
    - **Sample Calculations:** Some reports will include an example of calculations used for data analysis, including any data manipulations made in Excel worksheets. These may be done by hand in the lab notebook and captured to jpg/png to submit in D2L.
    - **Conclusions/Applications:** Post-Lab questions may include a summary of major results obtained as well as explanations about how data were interpreted. Additional questions may also be asked that are based on understanding the principles and calculations practiced in the experiment.
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