



CHEM 414-01, Biochemistry, Fall 1999

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| Item Type | Text |
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| Publisher | Memphis, Tenn. : Rhodes College |
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| Download date | 2025-02-15 06:23:36 |
| Link to Item | http://hdl.handle.net/10267/2827 |

CHEMISTRY 414I - BIOCHEMISTRY LAB

COURSE INFORMATION

Term: Fall 1998, Thurs. 1-5pm

Text: None. Materials will be provided.

Professor: Dr. Darlene M. Loprete

Office: 108 Kennedy Hall

Office Hours: Mon. 10:30-11:20 am; or by appointment.

Phone Numbers: X3905 or 278-8571(home). Please call before 9pm.

Email: Loprete@rhodes.edu

SCHEDULE

| <u>WEEK</u> | <u>EXPERIMENT</u> |
|---------------------|--|
| August 27 | Introduction and check-in |
| Week 1 - Lab 1 | Determination of the pH Optimum of β -galactosidase |
| Weeks 2-4 - Lab 2 | Determination of the Amino Acid Sequence of a Tripeptide |
| Week 5 - Lab 3 | Biuret Assay for Proteins |
| Weeks 6-7 - Lab 4&5 | Enzyme Kinetics |
| Week 8 - Lab 6 | Reactions of Reducing Sugars |
| Week 9 - Lab 7 | Evaluation of the Dietary Excess of Vitamin C |
| Weeks 10-12 - Lab 8 | Isolation and Characterization of Phosphatidylcholine from Egg Yolk |
| Dec. 3 | Check out |
| Dec. 3 | Lab Exam |

DESCRIPTION

This course will expose you to fundamental lab techniques in biochemistry.

GOALS

1. To understand and perform lab experiments in biochemistry.
2. To learn to write clear and comprehensive lab reports.

EVALUATION

1. **Prelab Quizzes:** A 10 minute quiz will be given each at the beginning of each lab. You will be quizzed on the procedure being conducted that day in lab. You will be expected to know the details of the procedure and reagents used.
2. **Lab Reports:** See format and grading scheme below.
3. **Final Exam:** The final exam is December 3rd at 1pm.
4. **Points :** The maximum number of points for each lab, the lab exam and the quizzes is given below:

| | |
|------------|---------------------|
| Lab 1 | 100 points |
| Lab 2 | 200 |
| Lab 3 | 100 |
| Lab 4&5200 | |
| Lab 6 | 100 |
| Lab 7 | 100 |
| Lab 8 | 200 |
| Quizzes | 150 |
| Final Exam | <u>300</u> |
| | 1450 - total points |

5. **Final Grade:** The following is a guide in determining your final letter grade:

| | | |
|-----------------------|-----------|---|
| Total points accrued: | 1300-1450 | A |
| | 1153-1299 | B |
| | 1008-1152 | C |
| | 863-1007 | D |
| | Below 863 | F |

Pluses and minuses will be assigned within the ranges given above.

FORMAT FOR LAB REPORTS

TITLE PAGE (2 points): Name, date, experiment number, and title.

OBJECTIVE (3 points): Briefly state the purpose of the experiment.

CHEMISTRY (12 points): Write the chemical equations that describe all the chemical reactions that occurred in the experiment.

DATA (10 points): Present all your data in a logical fashion. Create tables for your data whenever possible.

GRAPHS AND FIGURES (20 points): Your data should be graphed using graphical programs on the computer (cricketgraph).

CALCULATIONS (8 points): Show all calculations. If a calculation is repeated, you just need to include one sample calculation.

CONCLUSION/DISCUSSION (12 points): Briefly analyze your data and compare your value to known values when appropriate. Be sure to reference your sources.

ANSWERS TO QUESTIONS (18 points): Answers to questions in the lab should be clear and unambiguous. A poorly worded answer or one that is ambiguous will not receive credit.

QUALITY FACTOR (15 points): The quality of your work will count in this section.

For example, if an unknown is given and you get the correct answer you can possibly get 15 points. If you do not get the correct answer you will receive less than 15 points. The quality of your data will also be assessed. Also, if you lose your data or have to borrow another student's data you will not receive full credit. You will be expected to keep a lab notebook and this will be checked occasionally.

NOTE: These points are based on a 100 point lab report. The points for each section double for a 200 point lab report.

POLICIES

1. **Lab reports:** All lab reports must be typewritten.
2. **Due date for lab reports:** Lab reports are due one week after the completion of the lab. Therefore; all reports are due Thurs. By 1pm. Late lab reports incur a penalty of 10 points per day per 100 points. A lab report handed in after 1 pm is considered a day late.
3. **Late Labs/Excused absences:** If you are ill or have to miss a lab (due to a death in your family or other personal matter) you must notify prior to the beginning of lab. When you contact me I will decide if your reasons are acceptable for missing lab.
A strong case must be made for turning in a late lab report.
4. **Data:** You are not allowed to obtain or use another student's data without my permission.
5. **Old Lab reports:** You are not to obtain, read or use old lab reports. This will be considered a Honor Code violation and the appropriate action will ensue.
6. **Email:** During the semester I will give you information via email; therefore you will be required to check you email between lab periods.
7. **Goggles:** You must wear goggles at all times in the lab.
8. **Food:** You are not permitted to eat or drink in the lab.