

## INTRODUCTORY BIOCHEMISTRY LABORATORY

01:694:313 Section H1 Index # 80012 Summer 2009

Laboratory Meets in Nelson B-437 from 1:00 to 4:00 PM

### Course Coordinator:

Dr. Frank Deis, Nelson A-311, [deis@rci.rutgers.edu](mailto:deis@rci.rutgers.edu)

### Teaching Assistant (Lab Instructor):

Jamie Joseph, [jmjoseph@rci.rutgers.edu](mailto:jmjoseph@rci.rutgers.edu)

### Tentative Syllabus:

July 6 <sup>th</sup>	Course Introduction and Photometry (Experiment 1)
July 7 <sup>th</sup>	Folin's Assay (Handouts Provided)
July 8 <sup>th</sup>	Chromatography (Experiment 2)
July 13 <sup>th</sup>	Electrophoresis I (Experiment 4)
July 14 <sup>th</sup>	Electrophoresis II (Experiment 4)
July 15 <sup>th</sup>	Mid-Term (July 8 <sup>th</sup> – July 16 <sup>th</sup> Labs)
July 20 <sup>th</sup>	Carbohydrates (Experiment 12)
July 21 <sup>st</sup>	Galactosidase Inhibition (Experiment 7)
July 22 <sup>nd</sup>	Galactosidase Km (Experiment 7)
July 27 <sup>th</sup>	Bioinformatics (Handouts Provided-Note: Class in Nelson B-125)
July 28 <sup>th</sup>	Sequencing and Mini-Prep (Handouts Provided-Note: Class in Nelson B-228)
July 29 <sup>th</sup>	Final (July 20 <sup>th</sup> -July 28 <sup>th</sup> labs)

Laboratory attendance is required. Absences will cause your grade to be lowered. **THERE IS NO MAKE-UP LAB!** Students are required to provide documentation for any absence to obtain credit for lab.

Students will be working in groups of four. Handouts will be provided for most labs, however it is helpful for each group to have at least one textbook (Text: Experimental Biochemistry by Switzer and Garrity, 3rd Edition). Each student is also required to have a lab notebook will be checked each lab period.

Laboratory work requires that your work is checked as satisfactory by the Lab Instructor before you leave. **Lab grades are determined by the Lab Instructor.** Lab quiz scores, lab reports, attendance and overall performance will be considered in determining the course grade. Please be considerate and clean your area and your glassware before you leave!

## Laboratory Rules:

1. Report all accidents and unsafe conditions immediately to your Laboratory Instructor.
2. Know the location of the safety shower and eyewash stations. If a chemical is splashed in the eyes or on the skin, immediately flush the affected area with water for at least 30 minutes and remove contaminated clothing.
3. Wear Eye Protection in the Laboratory when instructed to do so. Splash-proof safety goggles are required when transferring potentially dangerous solutions.
4. Wear the proper clothes to protect the body against chemical spills, etc. Do not wear bare midriffs, shorts, short skirts, open-toed shoes, or sandals/flip-flops in the Laboratory. **Students who arrive improperly dressed for lab will be sent away and will lose credit for the lab.**
5. **Do NOT eat, drink, smoke, chew gum**, or apply cosmetics in the laboratory.
6. Wash hands frequently when handling chemicals and before leaving the laboratory. Remove gloves prior to leaving the laboratory.
7. **Do not touch any equipment unless instructed to do so.**
8. Bring a notebook or binder with paper to lab. All work will be done in your lab notebook and signed by your Laboratory Instructor at the end of each Lab. The signed assignments will be checked by your Instructor at the time of your Final.
9. **There will be no Food or Drinks allowed within the laboratory. Do not throw away any of your food or beverage containers in the laboratory garbage. Please dispose of everything outside of the laboratory.**
10. The class will be divided into groups of 4. Each group will have a clean up list that must be completed and signed by the Laboratory Instructor before you will be released from the lab. It is the responsibility of every student to clean the benchtops and glassware they are using.
11. **Grades**

### Point Distribution

In Class Assignments 50 points

Mid-Term 40 points

Final 40 points

Lab Report 20 points

**Total 150 points**

12. Lab Reports are to be typed, double spaced, with Times New Roman 12 pt font. Lab Reports will be due at the **beginning of Lab on July 22nd**. You will receive the graded Lab Reports at the time of your Final. Late Reports will have point deductions. **No Reports will be accepted after July 24th.**
13. Lateness to Lab is not acceptable. Please arrive on time to Lab. Points will be deducted from your In Class Assignments for continued lateness. It is also at the discretion of your Laboratory Instructor to send you away from lab due to extreme lateness.

## Summer 2009 Lab Report Instructions and Template

One final lab report is due **from each student** in class on **July 22<sup>nd</sup>**.

You will receive your grade Wednesday, July 29<sup>th</sup>, during your final.

**Late submission=5points off total grade for every 24 hour period that it is late. The lab report will not be accepted after July 24<sup>th</sup>.**

**This semester's lab report is on the Photometry experiment.**

**Note: There is no specific length requirement, as long as all of the listed criteria are met! It is not appropriate to write your lab report in 1<sup>st</sup> person!**

### Template

Reports should include:

- Your name
- Date
- Title
- Times New Roman 12pt font
- Double spacing

### Headings:

#### Introduction

- Include one or two sentences about the experimental purpose of the lab. Describe the concepts underlying the lab and the techniques used. Provide a coherent hypothesis.

#### Materials and Methods

- Summarize the procedures done in lab. Do not give excessive detail!

#### Results

- Record everything you saw and found. Make legible tables/graphs that are well ordered and easy to read. Be sure to include units for measurements. Use proper significant figures and for repetitive calculations, show only one sample calculation but include all of the results.

#### Discussion/Conclusion

- Refer to the Introduction and discuss whether the experiment supported your hypothesis you made. Use the information from the Results section to determine whether the experiment was a success or not. Discuss why the data doesn't support the theory if necessary and where errors may have been.

#### Works Cited

- Cite the references that you used throughout your report. The textbook must be cited! Don't forget to cite within your report! Only use Wikipedia if you can verify the source that was used to obtain the information.

#### Raw Data

- Raw data needs to be included to receive credit for writing the report.