

Colorado State University Department of Biochemistry
BC 406A Investigative Biochemistry – Protein Chemistry
Fall Semester 2021

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Schedule: AZ E208 and Yates 307, TR 2:00-4:50PM (and hours arranged)

Textbook: Laboratory Notebook (in the bookstore under BC406)

Course goal: **Learning goal #1:** *Students will learn to implement and execute an experimental design in order to test a hypothesis from a project currently being undertaken by research labs within the department.*

Learning goal #2: *Students will demonstrate proficiency in maintaining a research notebook that can be used by the research lab within the department from which their project originated.*

Learning goal #3: *Students will demonstrate proficiency in executing a number of biochemical, molecular biology, and cell biology experimental techniques.*

Learning goal #4: *Students will demonstrate the ability to interpret data from experimental techniques and articulate the relevance of these data to refutation or support of their original hypothesis.*

Assessment: Your grade will be derived from the following assignments:

1. **Primer Design and Hypothesis – 25 points**
 - a. *Assignment can be found on Canvas*
2. **Plan of Experimental Procedures – 25 points**
 - a. *Assignment can be found on Canvas*
3. **Notebook – 50 points**
 - a. *Notebooks are to be purchased from the bookstore.*
 - b. *Each day is to include the following:*
 - i. *Date*
 - ii. *Purpose*
 - iii. *Procedure including:*

1. *Materials and calculations for reagents/buffers*
2. *Brief description of methods used*
- iv. *Results*
- v. *Conclusions*
4. *Lab presentation - 50 points*
 - a. *Rubric is provided in Canvas*
5. *Daily Check Out – 40 points*
 - a. *These are worth 4 points each and can be found on Canvas*
 - b. *You will be expected to hand-in one of these at the conclusion of each lab. Exceptions to this will be the 1st and last day of the lab.*

Grades:

The following is a complete breakdown of point accumulation:

<u>Assignment</u>	<u>Points</u>
Primer Design	25
Experimental plan	25
Notebook	50
Lab presentation	50
<u>Daily Check out</u>	<u>40</u>
Total	190

<u>Grade</u>	<u>Percentage</u>
A+	97-100%
A	90 - < 97%
B+	87 - < 90%
B	80 - < 87%
C+	77 - < 80%
C	70 - < 77%
D	60 - < 70%
F	below 60%

What this means is that you are guaranteed at least those grades if you have those percentages. A curve may or may not apply to this class. I have, in the past, used a minus policy and reserve the right to do so depending on the distribution of the grades.

Attendance:

This course has been designed for a student to work independently on a research project in order to advance discovery in a particular field of biochemistry. The expectation is that the student will be in the lab at least 6 hours a week at the arranged times (T/R from 2-5PM). In addition, the expectation will be that students may need to come in during “off-times”

(maybe even weekends) to set up experiments, prepare solutions, complete an experiment, etc. Students will be given a digital code to access the lab in order to do so. **IT IS THE STUDENTS RESPONSIBILITY** to ensure that experiments are being completed in a timely manner in order that data can be collected to advance knowledge and create constructs/reagents for the participating departmental lab. Lab participation points will be given to students that demonstrate a maximum effort in this capacity.

COVID-19: All students are expected and required to report any COVID-19 symptoms to the university immediately, as well as exposures or positive tests from a non-CSU testing location.

If you suspect you have symptoms, or if you know you have been exposed to a positive person or have tested positive for COVID, you are required to fill out the COVID Reporter (<https://covid.colostate.edu/reporter/>). If you know or believe you have been exposed, including living with someone known to be COVID positive, or are symptomatic, it is important for the health of yourself and others that you complete the online COVID Reporter. Do not ask your instructor to report for you. If you do not have internet access to fill out the online COVID-19 Reporter, please call (970) 491-4600. You may also report concerns in your academic or living spaces regarding COVID exposures through the COVID Reporter. You will not be penalized in any way for reporting. When you complete the COVID Reporter for any reason, the CSU Public Health office is notified. Once notified, that office will contact you and, depending upon each situation, will conduct contact tracing, initiate any necessary public health requirements and notify you if you need to take any steps.

For the latest information about the University's COVID resources and information, please visit the **CSU COVID-19 site**: <https://covid.colostate.edu/>.

Lab Safety: Some general policies regarding lab safety:

- 1) Due to the COVID-19 Pandemic, we will be requiring that you wear masks.
- 2) No open toed shoes (shorts are fine).
- 3) No "horse-play" in the lab.
- 4) No eating or drinking in the lab.
- 5) Place Backpacks on racks.

Academic Integrity: This course will adhere to the Academic Integrity Policy found in the Colorado State University [General Catalog](#).

Class Schedule:

BC406-FA21 Schedule	
Date	Daily Task
10/19	Course Introduction - 1. Explanation of Project 2. Explanation of expectations for lab notebook.
10/21	Students hand in: 1. Primer design/hypothesis 2. Dated list of experimental procedures. 3. First “Daily Check-out”
10/26 – 12/2	Benchwork
12/3 – 12/8	Data analysis and Prep for Presentation
12/9	Lab Presentation Last Day