

2021 BC464 Molecular Genetics – Honors section

Instructors: Dr. Tingting Yao Tingting.Yao@colostate.edu
Dr. Laurie Stargell Laurie.Stargell@colostate.edu
TA: Leah Dixon Leah.Dixon@colostate.edu

Meeting time/place: Tuesday at 1 pm, A/Z E210

Student Learning Outcomes:

- Understand primary research literature in its scientific context
- Critically evaluate molecular biology experiments and their interpretation
- Communicate effectively with other scientists

DATE	RECITATION TOPIC	LOCATION
T 8/24	Introduction	A/Z E210
T 8/31	Submit your favorite Nobel-prize winning topic	Work on your own
T 9/7	How to read scientific literature	A/Z E210
T 9/14	Paper Discussion 1: prepare outline	Work on your own
T 9/21	Paper Discussion 1	A/Z E210
T 9/28	Paper Discussion 2: prepare outline	Work on your own
T 10/5	Paper Discussion 2	A/Z E210
T 10/12	Paper Discussion 3: prepare outline	Work on your own
T 10/19	Paper Discussion 3	A/Z E210
T 10/26	Paper Discussion 4: prepare outline	Work on your own
T 11/2	Paper Discussion 4	A/Z E210
T 11/9	Prepare oral presentation outline	Work on your own
T 11/16	Present your outline in class	A/Z E210
11/22-26	FALL BREAK	
T 11/30	Oral presentations	A/Z E210
T 12/7	Oral presentations	A/Z E210

Select a topic

Each student will select a topic that will be presented towards the end of the semester. The presentation should focus on significant discoveries from a past Nobel prize winner (in Chemistry or Medicine). The topic should be relevant to Molecular Genetics in general and will be vetted after submission. You will first develop an outline of presentation, covering how the discovery was made, why it was Nobel-worthy, and what the remaining significant questions are. During this preparation, you should have encountered primary literature that you'd like to discuss in depth. Each student should include one primary literature paper to focus on in his/her presentation.

At the end of the semester, each student will give a 15-20 min presentation on the topic you chose. In your presentation, you are encouraged to outline milestones in the course of

discovery, use schematics to depict important concepts, and use original figures to illustrate important experiments. Make sure to cite your sources.

Read primary research literature

Students will work together to discuss 4 research articles during the semester. They will first develop a Paper Outline, due **by Sunday at noon**. In the following week, the instructor/TA will lead the discussion. During the discussion session, students will be evaluated on their participation. Afterwards, each student will submit 3 quiz questions (with answers indicated) on Canvas **by Sunday at noon**.

Please use these major headings in your outline:

A. Authors of paper:

Title of paper:

B. Main Problem/Question of the paper

C. Main Conclusion

D. Background

E. Importance/implications

F. Experimental Approaches

Method 1 Protocol

Method 1 Findings

Method 2 Protocol

Method 2 Findings

Method 3 Protocol

Method 3 Findings

G. Next Experiments

Grading: Traditional letter grades will be assigned. The individual class assignments will constitute the following proportion of your final grade:

20 class participation

40 paper outline

10 quiz questions

30 final oral presentation

100 total points

Important note: All written assignments will be graded for spelling and grammar, as well as content and organization.