

## 2023 BC464 Molecular Genetics – Honors section

Instructors: Dr. Tingting Yao [Tingting.Yao@colostate.edu](mailto:Tingting.Yao@colostate.edu)  
Dr. Laurie Stargell [Laurie.Stargell@colostate.edu](mailto:Laurie.Stargell@colostate.edu)  
TA: Bridget Owusu [Bridget.Doe@colostate.edu](mailto:Bridget.Doe@colostate.edu)

**Meeting time/place:** Tuesday, 1–1:50 pm, Chemistry B301

### 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
8/22	How to read a scientific article	Meet in person
8/29	Model Organism: Yeast (tour SGD)	Meet in person
9/5	Chapter 4.1 Experimental Approach Nuclease probes of chromatin organization	Work on your own
9/12	Exam week	
9/19		Meet in person
9/26	Chapter 8.1 Experimental Approach Mapping the locations of the transcription pre- initiation complex at promoters with and without TATA boxes	Work on your own
10/3		Meet in person
10/10	Exam week	
10/17	Chapter 9.3 Experimental Approach	Work on your own
10/24		Meet in person
10/31	Genomically recoded organisms expand biological functions	Work on your own
11/7	Exam week	
11/14		Meet in person
11/21	FALL BREAK	
11/28	CRISPR-Cas9 corrects Duchenne muscular dystrophy exon 44 deletion mutations in mice and human cells	Work on your own
12/5		Meet in person

### **Week 3 – 16 Scientific literature discussion**

Students will work together to discuss 5 research articles during the semester. They will first develop a Paper Outline, due **by Sunday before the in-person class**. In the following week, the instructor/TA will lead the discussion in person. During the discussion session, students will be evaluated on their participation. Afterwards, an assignment will be posted on Canvas, due **by Sunday at 11:59 pm**.

***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:

25 class participation

50 paper outline

25 assignments

100 total points

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