Molecular Biology 5333/5331 Fall 2022
Graduate Course Information & Schedule

Instructor: Dr. Jon Scales
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Hours: See office door schedule
Office: BO218

COURSE GOALS

The goal of this course is to expose students to the major concepts of molecular biology. The course will focus on nucleic acid manipulation, gene expression, genome structure, & gene editing.

COURSE MATERIALS

Molecular Biology 5th ed. (2012) Robert Weaver

Molecular Biology 3rd ed (2019) Clark, Pazdernik & McGehee

There are two possible textbooks to guide you while in this course. Many of the images in the lecture powerpoints are taken from these two texts. One of the books is out of print, but is available as a free PDF which I have linked on our D2L page. The other book is a recent publication and is available through the university bookstore or via whatever sketchy underworld textbook dealer you may have a relationship with. The field of Mol Biol is rapidly changing, so you definitely will be getting out of date info in the older text book.

ASSIGNMENTS

READING:

It is expected that you will read relevant topics in the textbook and any assigned papers before coming to class. At a minimum, you should scan through the textbook chapter(s) before coming to class and then read the chapter(s) more thoroughly afterwards. The logic of this approach is that you will have seen new terms we bring up in class in the overall context of the topic and then you can go back for more detail after we discuss it in class.

WORKSHEETS

There will be bi-weekly worksheets, either handed out in class or uploaded on D2L. D2L worksheets will be available for limited periods of time, but you will have unlimited attempts to complete the worksheets.

EXAMINATIONS

EXAMS

There will be 3 exams all of equal weighting.

Students enrolled at the masters-level will complete additional questions on the examinations and produce a presentation on a current molecular biology topic.

MAKE-UP EXAM POLICY

Our make-up exam policy follows the classic missed exam paradox. This paradox consists of two rules as stated below.

RULE #1 DON'T MISS ANY EXAMS
RULE #2 IF YOU HAVE TO MISS AN EXAM SEE RULE #1

Tentative Lecture Schedule

Week	Date	Topic	Reading	Worksheet
Week 1	Aug 23	History of Molecular Biology		
Week 2	30	Molecular Nature of Genes		
Week 3	Sep 6	Intro to Gene Function		
Week 4	13	The Methods to My Madness		
Week 5	20	**EXAM I IN CLASS (into – methods)**		
Week 6	27	Prokaryotic & Bacteriophage Gene Regulation		
Week 7	Oct 4	Eukaryotic & Viral Gene Regulation		
Week 8	11			
Week 9	18	**EXAM II IN CLASS (txn regulation)**		
Week 10	25	Post-Transcriptional Regulation		
Week 11	Nov 1	Translation		
Week 12	8	Replication and Recombination		
Week 13	15			
Week 14	22			
Week 15	29			
Week 16	Dec	**FINAL EXAM**		

Tentative Lab Schedule

Week	Date	Topic	Reading
Week 1	Aug 25	NO LABS	
Week 2	Sep 1	clone	
Week 3	8	something	
Week 4	15		
Week 5	22		
Week 6	29		
Week 7	Oct 6		
Week 8	13		
Week 9	20		
Week 10	27		
Week 11	Nov 3		
Week 12	10		
Week 13	17		
Week 14	24	**NO LAB- THANKSGIVING**	
Week 15			