

Fall 2017 Dr. Palter Bio 3324 Molecular Biology

Textbooks: Required: Krebs, Goldstein and Kilpatrick, Genes XII, Jones and Bartlett, 2014 (K)

Thieman and Palladino 2018; Introduction to Biotechnology, Third Edition (T)

In addition to Genes XII, students need to purchase just Chapters 16 and 17 from Cells 3rd edition, Plopper, Sharp and Sikorski, Jones and Bartlett, 2015 Rm BE 166 11:00-12:20 PM Tue, Thurs

Office hours: Tuesdays and Thursdays after class **or by appointment**

Rm 343 Bio-Life

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Proposed Syllabus

Date	Lecture	Topic	Chapter
8/29	1	The Content of the Genome	4 (K) (to p. 94)
8/31	2	Genome Sequences and Evolution	5 (K)
9/5	3	Evo-Devo: Evolutionary Synthesis	Carroll, Cell paper
9/7	4	Recombinant DNA Techniques	3, 8 (T) (pp. 193-196)
9/12	5	“	11 (T) (pp. 269-272), “ (pp. 280-287) 2 (K)
9/14	6	DNA replication, the replicon	9 (K) (pp. 228-230), (237-241) 10 (K)
9/19	7	Enzymology of DNA replication, telomerase, and topoisomerase	11 (K) 12 (K) (pp. 284-287), 9 (K) (p. 229) 7 (K) (pp. 180-185) journals
9/21	8	Transcription in Prokaryotes	17 (K)
9/26	9	“	
9/28	10	Transcription in Eukaryotes	18 (K)
10/3	11	“	
10/5	12	Exam I	
10/10	13	5'-methyl cap, 3' polyA, yeast two-hybrid	19 (K) (pp. 505-506), pp. 526-528), 26 (K) pp 707-708)
10/12	14	RNA Processing	19 (K) (to p. 525)
10/17	15	“	21 (K) (to p. 578)
10/19	16	Protein Synthesis	22 (K)
10/24	17	Translation: The Genetic Code	23 (K)
10/26	18	“	
10/31	19	Mobile genetic elements	15 (K)
11/2	20	Exam II	
11/7	21	Mobile genetic elements	
11/9	22	The nucleosome	7 (K) (pp. 161-169) 8 (K)

11/10	23	Controlling chromatin structure	26 (K) (pp. 815-829) 27 (K) (to p. 743)
11/14	24	“	
11/16	25	Oncogenes and cancer	Cells, 17 (Cancer)
journals			
11/20-26	Fall Break and Thanksgiving		
11/19	26	“	
11/28	27	Apoptosis: programmed cell death	Cells, 16 (Apoptosis)
11/30	28	“	
12/5	Catch up		
12/7	Review		
12/12-12/13	Study days		
12/19	Final	10:30 AM-12:30 PM	note different time, same room

Syllabus for Bio 3324 (continued)

1. **Course goals:** To familiarize the student with the techniques of modern molecular biology and provide basic understanding of the molecular basis of gene regulation as it relates to both normal development and the misregulation that occurs in cancer.
2. **Prerequisites:** Genetics, Biology 2203 and Organic Chemistry II, Chemistry 2202. All students enrolled must have passed Biology 2203 and Chemistry 2202 with a C- or better. Students who do not have these prerequisites must obtain **written permission from me** the first week of class. I actively discourage students from taking this course without the Genetics prerequisite.
3. There will be two in class exams and a final. The in class exams will contribute 30% and the final 40% to the final grade. The second exam may contain any material covered in class prior to the exam (that is it may be cumulative, although it will primarily cover the new material). The final will be cumulative. Any outside reading assignments in addition to the textbook **will be included** on the exams. I will post the outside readings as word or pdf files on Blackboard. There are no makeup exams for this course, so better take care of yourself and relatives as exam dates approach. Missed exams count as an **F**, unless there is really a life and death emergency. A cold is not a life or death emergency. If you have a job or medical school interview on the day of the exam, you must notify me in **writing or email in advance** so that you may take the exam **early**. You may not take the exam after the in class exam is given. Back exams are to be used as study guides and will be available on Blackboard with an answer key two weeks before the exams. An answer key to all current exams will be available on Blackboard the day I return graded exams. If you feel you have been misgraded or I made a mistake numerically scoring the exam, you must contact me within **two days** of my returning the exams.
4. You may drop this course by **Monday September 11** with no record of the class appearing on your transcript. You may withdraw from this course by **Tuesday Oct 24** with your advisor's signature. The course will be recorded on the transcript as a "W" indicating that the student withdrew. After Oct 24, students who fail to take exams or complete the work will receive a grade of **F**.
5. You may get an **incomplete (I)** only if you have completed the majority of the work in the course and are passing and only for reasons beyond your control. You must sign a written agreement with me, to be filed with the department and Dean's office, regarding the requirements for completion of the course and the date by which the work will be completed. Typically this is within one year of enrolling in the course.
6. Any student who has a need for accommodation based on the impact of a disability should contact me privately to discuss the specific situation as soon as possible. Contact Disability Resources and Services at 215-204-1280.

7. **Cheating:** All students are expected to abide by the University policy regarding academic honesty. Students may only use hand held calculators for numerical calculations and may not store course material in them. No cellular phones are permitted during exams. All coats, backpacks, pocketbooks etc will be placed in the front of the room during exams. If I believe that two exams were written in collusion, the students will be reported to the Academic Disciplinary Committee and if found to have violated University policy, both students will receive a grade of **F**.