

Bio 404/504
Spring 2018
Hochstetter 307, MWF 11:00-12:10

Instructors:

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Exams: There will be 4 exams, each of which will be 1/4 of the final grade. The last exam will not be cumulative. Make-up exams will be given only with a valid medical excuse and will be oral or written at the instructor's option. If you have a medical reason for missing an exam, the instructor must be notified within 24 hours of missing the exam. If notification is not given, you will receive a grade of zero for that exam. The following is an approximate schedule of lectures. Exam dates will not change. Readings will consist of references to the literature.

BIO 404/504 COURSE OUTLINE Spring 2016

<u>Lecture #</u>	<u>Date</u>	<u>Topic</u>	<u>Instructor</u>
1	Jan. 29	Introduction /overview of course	Gollnick
2	Jan 31	RNA Polymerase Structure/Fuction	Gollnick
3	Feb. 2	Transcription Initiation in Bacteria	Gollnick

4	Feb. 5	Transcription Elongation in bacteria	Gollnick
5	Feb. 7	Transcription Termination in bacteria	Gollnick
6	Feb. 9	Regulation of Transcription Repressors/Activators	Gollnick
7	Feb. 12	Regulation of Transcription Attenuation/Antiterm.	Gollnick
8	Feb. 14	Regulation of Transcription Riboswitches II	Gollnick
9	Feb. 16	Regulation of Transcription Riboswitches II	Gollnick
10	Feb. 19	Exam I	
11	Feb. 21	Introduction to Chromatin and Pol II Transcription	Rusche
12	Feb. 23	Reading the Histone Code	Rusche
13	Feb. 26	Cohesin Forms a Ring	Rusche
14	Feb 28	Formation of a Pre-Initiation Complex	Rusche
15	Mar. 2	Polymerase Pausing	Rusche
16	Mar. 5	Topological Domains	Rusche
17	Mar. 7	DNA Methylation and Epigenetic Inheritance	Rusche
18	Mar. 9	Transcription by RNA Pol I & III	Yu
19	Mar. 12	Transcription by RNA Pol I & III	Yu
20	Mar. 14	Transcription by RNA Pol I & III	Yu
21	Mar. 16	Exam II	
22	Mar. 26	Decoding antibiotics	Walker
23	Mar. 28	Peptidyl transfer Part 1	Walker
24	Mar. 30	Peptidyl transfer Part 2	Walker
25	Apr. 2	PTC antibiotics	Walker
26	Apr. 4	Eukaryotic Translation Initiation	Walker
27	Apr. 6	Eukaryotic Translation Termination/Recycling	Walker
28	Apr. 9	Genome Editing – CRISPR/Cas9	Walker
29	Apr. 11	DNA Replication Mechanisms	Berezney

30	Apr. 13	Replication Timing	Berezney
31	Apr. 16	Replication Factories	Berezney
32	Apr. 18	Chromosome Territories and Genomic Regulation	Berezney
33	Apr. 20	Chromosome Territories and Genomic Regulation	Berezney
34	Apr. 23	Exam III	
35	Apr. 25	RNA Processing - Splicing	Yu
36	Apr. 27	RNA Processing - Splicing	Yu
37	Apr. 30	Post-transcriptional Gene Regulation – mRNA Export	Yu
38	May 2	Post-transcriptional Gene Regulation – Nuclear Surveillance	Yu
39	May 4	Post-transcriptional Gene Regulation – Nuclear Surveillance	Yu
40	May 7	Gene Silencing by Small RNAs	Yu
41	May 9	Gene Silencing by Small RNAs	Yu
42	May 11	Exam IV	