

**\*SYLLABUS\***  
**BIOSC 1940/2940 FALL 2015**  
**Molecular Biology**

Time: M,W,F 10:00-10:50 AM

Location: A221 Langley Hall

Instructor: Dr. Andrea Berman, 412-624-2200, [ajb190@pitt.edu](mailto:ajb190@pitt.edu)

Textbook: *Molecular Biology: Principles and Practice*

Michael Cox, Jennifer Doudna, and Michael O'Donnell, 2<sup>nd</sup> Edition, 2015

THIS SCHEDULE IS FLEXIBLE:  
 IT WILL LIKELY BE MODIFIED THROUGHOUT THE SEMESTER

Lecture	DATE	Day Of Week	Chapter / Reading	Topic	Notes
1	8/31	M	2, 3	Course introduction, review, and introduction to structural techniques	
2	9/2	W	6	DNA structure/RNA structure	
3	9/4	F	4-1; 7	Classical techniques for studying genes	
	9/7	M		<b>LABOR DAY</b>	
4	9/9	W	4-5; TBP	<b>Discussion:</b> Structure function	Quiz 1 due, Figure Facts
5	9/11	F	7; TBP	Sequencing technologies	
6	9/14	M	8; TBP	Asking genome-wide questions ("omes")	
7	9/16	W		<b>Discussion:</b> Application of sequencing technology	Figure Facts
8	9/18	F	9-10	DNA packaging and chromatin	Quiz 2 due
9	9/21	M	10; TBP	Chromatin modification and nuclear organization	
10	9/23	W	11	DNA replication 1: prokaryotes	
11	9/25	F		<b>Discussion:</b> Epigenetics	Figure Facts
12	9/28	M	11	DNA replication 2: Eukaryotes	Quiz 3 due
13	9/30	W		DNA: looking at real data and review	
	10/2	F		<b>EXAM 1</b>	
1	10/5	M	12	DNA mutagenesis	
2	10/7	W	12-13	DNA repair and recombination	
3	10/9	F	15	Transcription 1	
4	10/12	M		<b>Discussion:</b> DNA repair	Figure Facts
5	10/14	W	15; TBP	Transcription 2	Quiz4 due
6	10/16	F	TBP	Studying transcription	
	10/19	M		Fall break	
7	10/20	T	16	RNA processing	
8	10/21	W	16	RNA splicing	Quiz 5 due
9	10/23	F		<b>Discussion:</b> RNA polymerase II	Figure Facts
10	10/26	M		Noncoding RNA	
11	10/28	W	19, 20, 21	Transcriptional regulation 1	
	10/30	F			
12	11/2	M	7-3; 19, 20, 21	Transcriptional regulation 2	Quiz 6 due
13	11/4	W		<b>Discussion:</b> Transcription regulation	Figure Facts
14	11/6	F		RNA: looking at real data and review	
	11/9	M		<b>EXAM 2</b>	
1	11/11	W	22	RNAi	
2	11/13	F	TBP	CRISPR	
3	11/16	M		<b>Discussion:</b> RNAi	Figure Facts
4	11/18	W	17	Genetic code and tRNA	Quiz 7 due
5	11/20	F	18	Translation 1: the ribosome	

6	11/23	M		Discussion: CRISPR	Figure Facts
	11/25	W		Thanksgiving break	
	11/27	F		Thanksgiving break	
7	11/30	M	18; TBP	Translation 2: the translation cycle	
8	12/2	W		Discussion: genetic code/tRNA synthetase	Figure Facts
9	12/4	F	TBP	Techniques for studying translation	Quiz 8 due
10	12/7	M	TBP	Translation and disease	
11	12/9	W		Discussion: IRES/disease	Figure Facts
12	12/11	F		Protein synthesis: looking at real data and review	Quiz 9 due
12/14-19			FINALS WEEK		

TBP=to be posted on Course Web

LAST UPDATED: 11/02/15