

PRINCIPLES OF MOLECULAR BIOLOGY SYLLABUS

Biol 318 –Fall 2012

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(or by appointment)

Required Text: 1) Cox, M.M. et al. 2012. Molecular Biology, 1st ed. For rent in bookstore.
2) Biol 318 Lecture Guide. For purchase in Biology Dept's Main Office, TNR 167 (\$38)

Class Meetings: Mon, Wed, Fri: 11:00-11:50 am; SCI A208

Exam Times: Check schedule for specific dates; exams typically take 1 1/2 hr,
Time reserved 10:30-12:30

Course Objective: To study gene structure, function, and control at the molecular level. Molecular techniques used to analyze nucleic acid and protein activity and diversity are discussed.

Grading: There are five (4) lecture exams, which are in short answer / essay format.

Assignment	Points (%) Worth
4 Exams	25% each

Your final letter grade is calculated as follows: out of 100 pt.

	B+ = 87.5-89.4	C+ = 77.5-79.4	D+ = 67.5-69.4
A = 92.5-100	B = 82.5-87.4	C = 72.5-77.4	D = 60.0-67.4
A- = 89.5-92.4	B- = 79.5-82.4	C- = 69.5-72.4	F = ≤ 60.0

Attendance Policy: I strongly recommend you attend every lecture. Missing any class will put you at a distinct disadvantage when test taking. Students who must miss an exam due to religious observances or participation in university-sanctioned events should notify me within the first 3 weeks of the beginning of class, so makeup arrangements can be made. The only other valid excuses for missing an exam are: death in the family, violent illness, or accident. In such cases: (1) you must provide evidence of some kind (eg. note from health center), **and** (2) you must reschedule **within 24 hours** after the deadline.

Academic Misconduct: You are responsible for the honest completion and representation of your work and for the respect of others' academic endeavors. Any act of cheating, plagiarism, or academic misconduct is subject to the penalties outlined in UWS Chapter 14. Please refer to this link for more information: <http://www.uwsp.edu/comm/wdeering/plag.pdf>

MOLECULAR BIOLOGY LECTURE SCHEDULE

Week	Date	Topic	Chapter
1	Sept 5 7	Syllabus /Molecular Biology Timeline & Evolution DNA as Genetic Material	1 2
2	10 12 14	Chemical Basis of Information Protein Structure Protein Function	3 4 5
3	17 19 11	DNA Structure RNA Structure Studying Genes: Molecular Cloning	6 6 7
4	24 26 28	Studying Genes: Hybridization & Screening of Clones Studying Genes: Transgenics EXAM I: (Timeline -> Transgenics); 10:30am-12:30pm	7 7 (1-7)
5	Oct 1 3 5	Studying Genes: PCR Studying Genes: DNA Fingerprinting Studying Genes: DNA Sequencing	7 7 7
6	8 10 12	Microarrays Genomes Changes in DNA Topology	7 8 9
7	15 17 19	Chromosome Architecture DNA Replication DNA Replication	10 11 11
8	22 24 26	DNA Mutation & Repair DNA Mutation & Repair & Recombinational Repair EXAM II: (Cloning -> Recombinational Repair); 10:30am-12:30pm	12 12 (7-12)
9	29 31 Nov 2	Immunoglobulin Genes Transposons Prokaryotic Transcription of RNA	14 14 15
10	5 7 9	Eukaryotic Transcription of RNA RNA Processing RNA Processing	15 16 16
11	12 14 16	RNA Processing RNA Processing RNA Processing	16 16 16
12	19 21&23	EXAM III: (Transposons -> Translation of Protein); 10:30am-12:30pm THANKSGIVING BREAK!!	(14-16)
13	26 28 30	The Genetic Code Translation of Protein Translation of Protein	17 18 18
14	Dec 3 5 7	Translation of Protein Regulation of Gene Expression Regulation of Gene Expression	18 19 19
15	10 12 14	Prokaryotic Gene Regulation: Lac Operon Prokaryotic Gene Regulation: Trp & Ara Operons Genetic Control of Lambda Phage	20 20 20
Final	Tue 18	EXAM IV: (genetic code -> gene regulation) 10:15-12:15	(17-20)