

MCB 720: MOLECULAR BIOLOGY
(Call # 04877)-Winter 2008

Time & Place: Tuesdays & Thursdays 10:10 AM-12:00 PM in Porter Hall, Room 305.

Instructors: Allan Showalter, John Kopchick and Frank Horodyski

Text: Molecular Cell Biology-(6th edition) ©2008 by Harvey Lodish et al.; Supplemental readings will also be assigned in class.

Requirements and Course Description:

Prerequisites: Chemistry 590 or permission. The purpose of this course is to introduce students to the basic concepts and techniques used in molecular biology.

Grades will be based on the following:

1. An exam (**Exam I**) based on the first third (FH lectures) of the course (75 points) in addition to paper presentations and discussions (25 points).
2. A take-home exam (**Exam II**) on the second third (AS lectures) of the course (100 points).
3. An exam (**Exam III**) based on the last third (JK lectures) of the course (100 points).

Thus, there are 300 points possible. Typically, 93.3% and above will earn an A, 90-93.3% an A-, 86.7-90% a B+, 83.3-86.7% a B, 80-83.3% a B-, 76.7-80% a C+, 73.3-76.7% a C, 70-73.3% a C-, 66.7-70% a D+, 63.3-66.7% a D, 60-63.3% a D-, and below 60% an F.

Office Hours & Communication Information:

Allan Showalter- By appointment, Porter 504, phone: 593-1135,
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John Kopchick- By appointment, Konneker Research Center 206A, phone: 593-4534,
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Frank Horodyski-By appointment, 235 Life Sciences Building, phone: 593-0851,
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Academic Conduct:

The penalty for course-related academic dishonesty (i.e., cheating on exams, plagiarism, etc.) will be failure of the entire course.

Attendance Policy:

Attendance records will not be maintained; however, please keep in mind that the examinations will be based on the material covered in the lectures as well as in the assigned course readings.

MCB 720: MOLECULAR BIOLOGY
Winter 2008 - Syllabus

Instructors: Drs. Allan Showalter (AS), John Kopchick (JK) and Frank Horodyski (FH)

<u>WEEK</u>	<u>DATE</u>	<u>READINGS*</u>	<u>TOPICS</u>
1	1/8 1/10	215-16, 247-61,299-307 958-59, 982-83	Chromatin (FH) Epigenetics (FH)
2	1/15 1/17	111-18, 139-44,262-65,1143-45 145-50,1139-143	DNA replication (FH) Mutation-DNA repair (FH)
3	1/22 1/24	347-351, 909-911 150-53, 226-36, 1069-076	Posttranscriptional gene silencing (FH) Recombination and transposition (FH)
4	1/29 1/31	- 2.2, 3.6, 4.1-4.4	Exam I (FH) Introduction; Molecular biology techniques** (AS)
5	2/5 2/7	6.1, 5 5	Molecular biology techniques** (AS) Molecular biology techniques** (AS)
6	2/12 2/14	5 5, 13	Molecular biology techniques** (AS) Molecular biology techniques** (AS)
7	2/19 2/21	5 469-470	Molecular biology techniques** (AS) Genetic engineering of plants (AS) Take-home Exam II-due 2/26 (AS)
8	2/26 2/28	4.1-4.5 7, 8	Transcriptional regulation of gene expression (JK) RNA processing & posttranscriptional control (JK)
9	3/4 3/6	15, 16 3	Hormones, receptors & intracellular signaling (JK) Protein engineering (JK)
10	3/11 3/13	4.7, 6.3, 14.6 25	Retroviruses (JK) Oncogenes (JK)
	3/20	-	Exam III (JK), 10:10 AM

*These assigned readings (chapters, chapter sections, or page numbers) are from your required textbook Molecular Cell Biology-(6th edition) ©2008 by Harvey Lodish et al.

**Molecular biology techniques to be covered include restriction enzymes, cloning essentials, DNA sequencing, cDNA cloning and screening strategies, oligonucleotide synthesis and use, Southern blotting, northern blotting, *in vitro* translation, hybrid-select translation, western blotting, construction and screening of genomic DNA libraries, site-directed mutagenesis, primer extension, expression systems, PCR technology, genomics, microarrays, and bioinformatics.

Course Web Site/Homepage: see <http://www.plantbio.ohiou.edu/epb/instruct/courses.htm>