MCB 720: MOLECULAR BIOLOGY
(Call # 04826)-Winter 2006

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-(5th edition) ©2003 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:

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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 2006 - Syllabus

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

WEEK	DATE	READINGS*	TOPICS
1	1/3	10.4, 10.5,11.5	Chromatin (FH)
	1/5	-	Epigenetics (FH)
2	1/10	4.6	DNA replication (FH)
	1/12	23.5	Mutation-DNA repair (FH)
3	1/17	10.3	Recombination and transposition (FH)
	1/19	p. 518-9, 908-9	Posttranscriptional gene silencing (FH)
4	1/24	-	**Exam I** (FH)
	1/26	1-4	Intro.; Molecular biology. tech.** (AS)
5	1/31	9	Molecular biology techniques** (AS)
	2/2	9	Molecular biology techniques** (AS)
6	2/7	9	Molecular biology techniques** (AS)
	2/9	9	Molecular biology techniques** (AS)
7	2/14	9	Molecular biology techniques** (AS)
	2/16	p.270-271	Genetic engineering of plants (AS)
			Take-home Exam II-due 2/23 (AS)
8	2/21	11,12	Transcriptional regulation (JK)
	2/23	11,12	RNA processing, posttranscriptional control (JK)
9	2/28	13,14	Hormones and receptors (JK)
	3/2	3	Protein engineering (JK)
10	3/7	4.7,10.3	Viruses, Retroviruses (JK)
	3/9	23	Oncogenes, cancer (JK)
	3/15 Wed.	-	**Exam III** (JK), 10:10 AM

*These assigned readings (chapters, chapter sections, or page numbers) are from your required textbook Molecular Cell Biology-(5th edition) ©2003 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, S1 nuclease mapping, expression systems, PCR technology, genomics, & microarrays.

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