

**FOUNDATIONS OF CELL AND MOLECULAR BIOLOGY I
FALL 2005 G16.2001**

Part I. Basic Molecular Biology. (August 29 to October 3).

* While students are strongly urged to attend lectures, exams for Basic Molecular Biology will focus on material covered during the Wednesday afternoon discussion sections.

MGB Lectures

All lectures will take place in Schwartz Lecture Hall F

Proteins – D'Eustachio

8/29	9:00 – 9:50
8/30	9:00 – 9:50
8/31	9:00 – 9:50
9/1	9:00 – 9:50
9/2	9:00 – 10:20

Nucleic acids – Thomas

9/9	9:00 – 9:50
9/12	9:00 – 9:50
9/14	9:00 – 9:50
9/16	9:00 – 10:20

Translation – Schneider

9/19	9:00 – 9:50
9/20	9:00 – 9:50

Gene expression – Thomas

9/21	9:00 – 9:50
9/22	9:00 – 9:50
9/23	9:00 – 9:50

Replication & repair – Borowiec

9/26	9:00 – 10:20
9/27	9:00 – 9:50
9/28	9:00 – 9:50

Discussion Sections

Wednesdays 12:00-2:00; 2:00-4:00
MSB 391 West – Biochemistry Library

August 31	Orientation and “The Art of Reading Scientific Papers”
September 7	Protein-DNA interactions
September 14	Protein-protein interactions
September 21	Measuring Gene Expression
September 28	Adapting to the post-genomic world
October 3 (Monday; Noon to 3 pm)	Exam Location TBA

Part II. Advanced Topics in Molecular Biology. (October 5 to December 15)

Tentative

Lectures will be mostly on Tuesdays and Thursdays in Skirball 3 from 9:00 to 10:30 A.M, unless otherwise noted. The discussion sessions, held on Friday, will be in two sections (9:00-10:30 A.M., and 10:30-12:00 noon) in the west wing of the Biochemistry Library (MSB 391). Sections will be decided during the first week of class. There will be two in-class exams. Attendance and participation in discussion sessions will account for a portion of the final grade.

SECTION HEADS - DRS. JIM BOROWIEC & ANGUS WILSON

<u>Day</u>	<u>Date</u>	<u>Subject</u>	<u>Lecturer</u>
WEDNESDAY	Oct. 5 Noon	Eukaryotic general transcriptional machineries	N. Tanese
THURSDAY	Oct. 6	Transcriptional regulation by gene-specific activators/repressors and co-activators/co-repressors	N. Tanese
FRIDAY	Oct. 7	Discussion	N. Tanese
TUESDAY	Oct. 11	Transcription cycle I - Initiation (RNA polymerases, promoter recognition and activation, RNA chain initiation, promoter clearance)	E. Nudler
WEDNESDAY	Oct. 12 Noon	Transcription cycle II - Elongation (structure of the elongation complex, regulation of elongation, termination, anti-termination)	E. Nudler
FRIDAY	Oct. 14	Discussion	E. Nudler
TUESDAY	Oct. 18	Nucleosome structure, higher-order chromatin, Locus Control Regions	A. Wilson
THURSDAY	Oct. 20	Chromatin remodeling machines, regulation of gene expression through histone acetylation	A. Wilson
FRIDAY	Oct. 21	Discussion	A. Wilson

TUESDAY	Oct. 25	Telomeres I	S. Smith
THURSDAY	Oct. 27	Telomeres II	S. Smith
FRIDAY	Oct. 28	Discussion	S. Smith
MONDAY	Oct. 31 (?)	In-class exam	Location TBA
TUESDAY	Nov. 1	Mechanisms of protein folding I	N. Cowan
THURSDAY	Nov. 3	Mechanisms of protein folding II	N. Cowan
FRIDAY	Nov. 4	Discussion	N. Cowan
TUESDAY	Nov. 8	Mismatch repair; nucleotide and base excision repair	H. Klein
THURSDAY	Nov. 10	Involvement of DNA recombination in DNA repair processes	H. Klein
FRIDAY	Nov. 11	Discussion	H. Klein
TUESDAY	Nov. 15	Eukaryotic DNA replication – replication origins, replication origin recognition complexes, regulation of initiation	J. Borowiec
THURSDAY	Nov. 17	The p53-DNA damage response pathway	J. Borowiec
FRIDAY	Nov. 18	Discussion	J. Borowiec
TUESDAY	Nov. 22	No Class – Thanksgiving week	

TUESDAY	Nov. 29	Translational control mechanisms in prokaryotes	R. Schneider
THURSDAY	Dec. 1	Translational control mechanisms in eukaryotes	R. Schneider
FRIDAY	Dec. 2	Discussion	R. Schneider
TUESDAY	Dec. 6	mRNA degradation in prokaryotes	J. Belasco
THURSDAY	Dec. 8	mRNA degradation in eukaryotes	J. Belasco
FRIDAY	Dec. 9	Discussion	J. Belasco
TUESDAY	Dec. 13	In Class Exam	