

Foundations in Molecular and Cell Biology, Fall 2008				
Theme: Molecular Mechanisms of Cellular Control				
	Class meetings: Monday & Wednesday 3:05 - 4:55 p.m., Room 322 Cherry Emerson			
Wk	Day	Date	Instr.	Topic
1	Mon	18-Aug	SH	Course overview, Quiz on student bkgds.; how to read, critique, and discuss scientific papers
	Wed	20-Aug	ISK	Anatomy and organization of genes and genomes; Regulation of gene expression in prokaryotes
2	Mon	25-Aug	ISK	Protein biochemistry, methods of protein structure determination
	Wed	27-Aug	ISK	Cryo-Electron microscopy, protein assemblies
3	Mon	1-Sep		<b>LABOR DAY</b>
	Wed	3-Sep	ISK	PAPER: The Headful Sensing Switch in P22 (Lander et al.)
4	Mon	8-Sep	SH	Nucleic acid biochemistry, methods of structure determination for nucleic acids, DNA packaging problem, VMD
	Wed	10-Sep	SH	PAPER: Structure of a Transcription Activation Complex (Jain et al.)
5	Mon	15-Sep	SH	Phage
	Wed	17-Sep	SH	PAPER: Forces generated by the DNA packaging motor (Smith et al.)
6	Mon	22-Sep	JW	Viral ecology
	Wed	24-Sep	JW	PAPER: tbd
7	Mon	29-Sep		<b>Exam 1</b>
	Wed	1-Oct	MS	Signaling in eukaryotic cells
8	Mon	6-Oct	MS	Chemotaxis I
	Wed	8-Oct	MS	GPCR-mediated signaling, Ca signaling
9	Mon	13-Oct		<b>FALL BREAK</b>
	Wed	15-Oct	KJ	Bioinformatics approaches
10	Mon	20-Oct	NM	Ionic homeostasis; Electrical signaling I
	Wed	22-Oct	NM	Electrical signaling II, PAPER: Chen et al., 2005, GPCR-mediated modulation of electrical signaling, Ca signaling
11	Mon	27-Oct	NM	Overview of immune regulation: recognition, signaling, inflammation
	Wed	29-Oct	NM	Chemotaxis and migration in immune cells, systems approaches to signaling
12	Mon	3-Nov		<b>Exam 2</b>
	Wed	5-Nov	MS	Overview of cell cycle regulation and cancer
13	Mon	10-Nov	MS	PAPER: Fritah et al., MCB, 25(6):2419-2430, 2005
	Wed	12-Nov	MS	Regulation of gene expression in eukaryotic cells
14	Mon	17-Nov	MS	Chromatin Architecture, PAPER:
	Wed	19-Nov	MS	Transcription Factors, Nuclear Receptors
15	Mon	24-Nov	YF	Developmental genetics, transgenic mouse technologies
	Wed	26-Nov	YF	PAPER: Kaneda et al., 2004, DNA methyltransferases in paternal and maternal imprinting
16	Mon	1-Dec	MS	Nuclear Receptors II, PAPER: Metivier et al., Cell, 115:751-763, 2003
	Wed	3-Dec	MS	Genomic & Nongenomic Signaling
17	Thurs	8-Dec		<b>Exam 3 during final exam period, 11:30 - 2:20</b>