

BIO B11H3S
Syllabus for January 2017

Date	Topic	Smart Pages	One Page Summary	Lecture #
Jan 3	Course overview, introduction to Quizzical and Blackboard resources			
Jan 5	DNA, genome organization and molecular evolution	Fig 10-11, 16, 17, 18, 28; Chap10EP fig2,4.	OP1	1
Jan 5 (5PM!)	Genome evolution and polymorphisms	Figs 10-19, 20, 23, 24, 26, 27, 30, SNP figure from Blackboard	OP2	2
Jan 5	Tutorial: 6-7PM Q&A session			
Jan 10	Transcription I: Overview and rRNA synthesis/maturation	Fig 11-1, 2, 4, 6, 7, 9, 11, 12	OP3	3
Jan 12	Transcription II: hnRNA synthesis and processing	Figs 11-15, 16, 18, 19, 20, 21, 22, 24, 27	OP4	4
Jan 17	Transcription III: RNA Splicing, miRNAs, siRNAs	Figs 11-28, 29, 30, 32, 33, 34, 35, 36; also Figure 12.63	OP5	5
Jan 19	Translation I: Genetic code and role of tRNA	Fig 2-24; Figs 11-37, 38, 39, 40, 42, 44, 45, 47, 50	OP6/7	6 & 7
Jan 24	Translation II: mechanistic aspects of protein synthesis			
Jan 26	Tutorial: 5-7PM Q&A session			
Jan 26	Nuclear and chromatin structure	Fig 10-15; Figs 12-5, 6, 10, 11, 12, 13, 14, 16, 29	OP8	8
Jan 31	Gene Regulation I: Promoters and control circuits	Figs 12-1, 2, 3, 4, 33, 34, 44, 45, 48	OP9	9
Feb 2	Gene Regulation II: Transcription factors and microarray technology	Figs 12-35, 40, 41, 42, 43, 44	OP10	10
Feb 6	Gene Regulation III: Epigenetics/miscellaneous regulatory mechanisms	Figs 12-18, 47, 49, 50, 51, 53, 56, 58, 59, 60, 62, 64; also Figure 18-52	OP11	11
Feb 9	DNA Replication I: general enzymology	Figs 13-2, 3, 4, 7, 8, 9, 10, 11	OP12	12

Feb 14	DNA Replication II: mechanism and regulation	Figs 13-12, 13, 14, 15, 19, 20, 22	OP13	13
Feb 16	Telomere replication and DNA repair processes	Figs 12-24; 13-16, 17, 24, 25, 26	OP14	14
Feb 28	Cell Cycle I: Introduction/ cyclins/CDKs	Figs 14-1, 2, 3, 4, 5, 6, 8, 11	OP15	15
Mar 2	Cell Cycle II: Chromosome condensation & movement	Fig 9-11; 14-14, 16, 17, 20, 22, 25, 28, 30	OP16	16
Mar 2	Tutorial: 5-7PM Q&A session			
Mar 7	Cell Cycle III: Biochemical regulation of mitosis	Figs 14-26, 31, 35, 38; <u>jpg figure similar to 14-37</u>	OP17	17
Mar 9	Cell Cycle 4: Meiosis, Heredity, and Individuality	Fig 10-1, 3, 7; 14-39, 40, 41, 44, 46, HPfigure 1 (p578)	OP18	18
Mar 14	Cancer I: General Aspects	Figs 16-3, 4, 6, 19, 21, 22, 23	OP19	19
Mar 16/21	Cancer II & III: Oncogenes, proto-oncogenes & tumor suppressor genes	Figs 16-9, 10, 11, 12, 14, 16, 17; also Fig 2-51	OP20	20
Mar 21	Signal Transduction I: General aspects	Figs 15-1, 2	OP21/22	21
Mar 23	Signal Transduction II: G proteins, glucose metabolism and lipid signaling	Figs 15-3, 5, 6, 7, 9, 10, 12, 13, 14	OP21/22	22
Mar 23	Tutorial: 5-7PM Q&A session			
Mar 28	Signal Transduction III: Calcium signaling, receptor tyrosine kinases and modulation of G-protein activity	Figs 15-17, 19, 21, 24, 25, 26, 28, 29, 32	OP23	23
Mar 30	Signal Transduction IV: MAP kinase cascade; signaling pathway interactions and apoptosis	Figs 15-22, 33, 34, 35, 38, 39, 40	OP24	24