

BIO B11H3S

Syllabus for January 2015

Date	Topic	Smart Pages	One Page Summary
Jan 6	Course overview/Quizzical assignment and web interface		
Jan 8	Review of heredity	Fig 10-1, 3, 7; 14-39, 41, 44, 46, HPfigure 1	OP1
Jan 8 (5PM)	Genome organization and molecular evolution	Fig 10-10, 15, 17, 19, 22, 23	OP2
Jan 13	Genome evolution and polymorphisms	Figs 10-26, 27, 29, 30, <u>SNP figure</u> from Blackboard, HPfigure 1	OP3
Jan 15	Transcription I: Overview and rRNA synthesis/maturation	Fig 11-1, 2, 4, 6, 7, 9, 12, 13, 14	OP4
Jan 20	Transcription II: hnRNA and splicing	Figs 11-17, 18, 20, 21, 23, 24, 29	OP5
Jan 22	Transcription III: RNA Splicing	Figs 11-30, 31, 32, 34, 35, 36, 37, 38	OP6
Jan 27	Translation I: Genetic code and role of tRNA	Figs 2-24; 11-39, 40, 41, 42, 44, 46, 47, 49, 52	OP7/8
Jan 29	Translation II: mechanistic view		
Jan 29	Tutorial: 5-7PM Q&A session		
Feb 3	Nuclear and chromatin structure	Figs 12-1, 2, 6, 7, 8, 12	OP9
Feb 5	Gene Regulation I: Promoters and control circuits	Figs 12-27, 28, 29, 32, 40, 44	OP10
Feb 10	Gene Regulation II: Transcription factors and microarray technology	Figs 12-34, 36, 37, 38, 39	OP11
Feb 12	Gene Regulation III: Epigenetics/miscellaneous regulatory mechanisms	Figs 12-17, 43, 46, 47, 49, 51, 52, 54, 56, 58	OP12
Feb 24	DNA Replication I: general enzymology	Figs 13-2, 3, 4, 7, 8, 9, 10, 11	OP13
Feb 26	DNA Replication II: mechanism and regulation	Figs 13-12, 13, 14, 15, 19, 20	OP14
Feb 26	Tutorial: 5-7PM Q&A session		
Mar 3	Telomere replication and DNA repair processes	Figs 12-20; 13-16, 17, 25, 26, 27	OP15

Mar 5	Cell Cycle I: Introduction/cyclins/CDKs	Figs 14-1, 2, 3, 4, 5, 6, 8, 11	OP16
Mar 10	Cell Cycle II: Chromosome condensation & movement	Fig 9-17; 14-14, 16, 17, 22, 25, 28, 30	OP17
Mar 12	Cell Cycle III: Biochemical regulation of mitosis	Figs 14-26, 33, 35, 38; <u>jpg figure similar to 14-37</u>	OP18
Mar 17	Cancer I: General Aspects	Figs 16-3, 4, 6, 19, 20, 21	OP19
Mar 19	Cancer II:Oncogenes, proto- oncogenes & tumor suppressor genes	Figs 16-8, 9, 10, 11, 13, 14, 16, 17	OP20
Mar 19	Tutorial 5-7PM: Q&A session		
Mar 26	Cancer III/ Signal Transduction I: General aspects	Figs 15-1, 2	OP21
Mar28	Signal Transduction II: G proteins, glucose metabolism and lipid signaling	Figs 15-3, 4, 5, 7, 8, 10, 12, 19	OP22
Mar 31	Signal Transduction III: Second messenger and receptor tyrosine kinase signaling	Figs 15-15, 17, 22, 23, 24, 26, 27, 30	OP23
Apr 2	Signal Transduction IV:Signaling pathway interactions and Apoptosis	Figs 15-20, 31 33, 36, 37	OP24