


Date	Classroom Topics	Readings and Assignments	Lab Activities
Sep 5	<b>Friday</b> Overview of learning objectives, assignments, syllabus		
Sep 9	<b>Tuesday</b> Why we care: Cancer	<b>Listen:</b> <a href="http://onpoint.wbur.org/2013/08/01/redefining-cancer">http://onpoint.wbur.org/2013/08/01/redefining-cancer</a> <a href="http://www.nature.com/lindau/2014/index.html?WT.mc_id=EMI_NATURE_1409_LINDAU4">http://www.nature.com/lindau/2014/index.html?WT.mc_id=EMI_NATURE_1409_LINDAU4</a>	Lab orientation: liquid handling, reagent preparation, etc.
Sep 12	<b>Friday</b> Atoms, elements, molecules, bonding, water	<b>Lab Manual Intro +Appendix</b>  Units 4, 5, 6 Small Molecules: Structure and Behavior <b>HW questions</b>	
Sep 16	<b>Tuesday</b> Proteins, Carbohydrates, Lipids and nucleic acids	Units 8, 9, 10, 12 <b>HW questions, Lab protocol</b>	Lab orientation: liquid handling, reagent preparation, etc.
Sep 19	<b>Friday</b> Prokaryotic and eukaryotic cells <b>Media discussion JCP</b>	Units 13, 14 The Organization of Cells <b>HW questions</b>	
Sep 23	<b>Tuesday</b> Cell Biology: The plasma membrane	Units 17, 18, 19 Cellular Membranes <b>HW questions, Lab protocol</b>	Transformation Instructors move plates from 37°C to 4°C
Sep 26	<b>Friday</b> Energy and Enzymes <b>Media discussion, Team1</b>	Units 11, 22, 23 Energy, Enzymes and Metabolism <b>HW questions</b> <b>Also: plasmids section</b>	
Sep 30	<b>Tuesday</b> Photosynthesis Jean Huang, guest lecturer	Units 28, 29, 30, 31 Photosynthesis <b>HW questions, Lab protocol</b>	SAC begins bacterial cultures  DNA plasmid prep
Oct 3	<b>Friday</b> Metabolic pathways <b>Media discussion, Team2</b>	Units 24, 25, 26, 27 Cellular Pathways that Harvest Chemical Energy <b>HW questions</b>	

Oct 7	<b>Tuesday</b> Chromosomes, The cell cycle	<b>Chromosomes, the Cell Cycle and Cell Division</b> Units 32, 33, 34, 35 (skip plant section), 36 <b>Also read: restriction enzymes (Pg 286)</b> <b>PCR (pg 290)</b> <b>HW questions, Lab Protocol</b>	<b>DNA quantitation</b> <b>PCR</b>
Oct 10	<b>Friday</b> Mendelian genetics, Chromosomes and inheritance <b>Genetics problem sets</b> <b>Media discussion, Team3</b>	Units 37, 38, 39, 40, 41, 42 <b>Genetics: Mendel and Beyond</b> <b>HW questions</b>	
Oct 14	<b>Tuesday</b> DNA structure and its role in heredity, DNA replication	Units 44, 45, 47 DNA and its Role in Heredity The Secret of Photo 51 <b>The basics of gel electrophoresis (p. 294)</b> <b>Lab protocol, HW questions</b>	<b>Restriction Digest</b> <b>Analysis of DNA:</b> agarose gel electrophoresis
Oct 17	<b>Friday</b> DNA Transcription & repair, Translation, the Genetic Code, Posttranslational events <b>Media discussion, Team4</b>	Units 48, 49, 50 Genotype to Phenotype <b>HW questions</b>  <b>Midterm posted over weekend</b>	
Oct 21	<b>Tuesday</b>	<b>No class: Midterm due at 3 pm.</b>	<b>No lab-group meetings</b> <b>with Joanne and Sadie</b>
Oct 24	<b>Friday</b> Gene expression <b>Media discussion, Team5</b>	Units 51, 52, 53 <b>Regulation of Gene Expression</b> <b>HW questions</b>	
Oct 28	<b>Tuesday</b> Recombinant DNA technologies	Units 57, 58, 60 <b>Recombinant DNA and Biotechnology</b> <b>HW questions, Lab protocol</b>	<b>Transfect cells</b> <b>Stimulate and Harvest</b> <b>Th/Fri (Sadie)</b>
Oct 31	<b>Friday</b> Cell Signaling and Cancer <b>Media discussion, Team6</b>	Units 20, 21, 55 Cell Signaling, Cancer <b>HW questions</b>	<b>Lab Reports Due</b> <b>Sunday at 11:59 pm</b>
Nov 4	<b>Tuesday</b> Immune responses to bacteria	Units 165, 166, 167, 168 <b>Natural Defenses against Disease</b> <b>HW questions, Lab protocol</b>	<b>Lyse cells and analyze</b> <b>in luciferase assays</b>
Nov 7	<b>Friday</b> Immune responses to Viruses <b>Media discussion, Team7</b>	<b>Write your own HW questions</b>	

Nov 11	<b>Tuesday</b> Genomes	Units 61, 62 Genomes <a href="#">HW questions, Lab protocol</a>	Run mini-gels Transfer, put into blocking solution
Nov 14	<b>Friday</b> Molecular biology and medicine-Bioinformatics	Units 43, 46 Gene Mutations and molecular medicine In class Bioinformatics <a href="#">HW questions</a>	
Nov 18	<b>Tuesday</b> Drug discovery and Clinical Trials <a href="#">Media discussion, Team8</a>	<a href="http://www.ted.com/talks/francis_collins_we_need_better_drugs_now">http://www.ted.com/talks/francis_collins_we_need_better_drugs_now</a> <a href="http://www.nature.com/naturejobs/science/articles/10.1038/nj7483-443a?WT.ec_id=NATUREjobs-">http://www.nature.com/naturejobs/science/articles/10.1038/nj7483-443a?WT.ec_id=NATUREjobs-</a>	Continue immunoblots Student-designed transfections
Nov 21	<b>Friday</b> Lab-luciferase readings		
<b>Thanksgiving Break</b> 			
Dec 2	<b>Tuesday</b> Global Health, part I	<a href="#">Student research and presentations on Global Health</a>	Luciferase assays
Dec 5	<b>Friday</b> Issues in Global Health, part II	<a href="#">Student research and presentations on Global Health</a>	<b>Lab reports and Lab notebooks DUE</b>
Dec 9	<b>Tuesday</b> Assessment and Feedback Poster session		Lab period=Poster presentations