

2008

## BIOLOGY 101 COURSE SCHEDULE

Wk	Date	Who	Module	Guiding Questions	Lecture Topics / Tests	Readings	Lab Topics / Assignments	
	29-Aug	EHW		What are we doing this semester?	Logistics; scientific method	Ch 1		
1	1-Sep	EHW	<b>Diversity of Life</b>	How do we make sense of the diversity of living organisms?	Kingdoms and classification	Ch 26	Lab: (Utica Marsh) biological questions	
	3-Sep	EHW			Systematics; Linnean system	Ch 23	<b>Annotated observations</b>	
	5-Sep	EHW			<i>Discussion:</i> themes of biology; Woese	Woese et al. 1990		
2	8-Sep	EHW		What solutions are there to the challenges of life?	Diversity of microbes, fungi, & plants	Ch 30, 31(.1,.2,.3,.10)	Lab: (Field) quantitative patterns of diversity	
	10-Sep	EHW			Invertebrate animal diversity	Ch 32 (skim 33, 34)		
	12-Sep	EHW			<i>Discussion:</i> science literature	articles by Chang, Williams		
3	15-Sep	EHW		How similar are humans and other animals?	Vertebrate animal diversity	Ch 35	Lab: data reduction and presentation	
	17-Sep	EHW			Communities	Ch 56 (.1,.5)		
	19-Sep	EHW			<b>TEST #1</b>			
4	22-Sep	WJC	<b>Cells and DNA</b>		Cells & cell diversity	Ch 4	Lab: bioinformatics	
	24-Sep	WJC			Macromolecules	Ch 3		
	26-Sep	WJC			<i>Discussion:</i> origin of life		<b>Lab Report 1</b>	
5	29-Sep	WJC		How does DNA make you and me?	Central dogma	Ch 15	Lab: transformation	
	1-Oct	WJC			Transcription & translation	Ch 15		
	3-Oct	WJC			<i>Discussion:</i> mutations & genetic disorders	TBA		
6	6-Oct	WJC		What causes genetic diseases?	Gene structure & regulation	Ch 16	Lab: restriction enzyme digestion	
	8-Oct	WJC			Pro- & eu-karyotic gene organization & regulation	Ch 16		
	10-Oct	WJC			<i>Discussion:</i> molecular machines	TBA		
7	13-Oct	WJC			Genome structures	Ch 18	NO LAB	
	15-Oct	WJC			<b>TEST #2</b>			
	17-Oct	<b>FALL BREAK</b>						
8	20-Oct	WJC	<b>Genetics and Biotechnology</b>	In vivo, in vitro, in vitro?	DNA replication & genome structure	Ch 14	Lab: realtime PCR	
	22-Oct	WJC			Detecting specific DNA			
	24-Oct	WJC			<i>Discussion:</i> synthetic life _ Synthia		<b>Lab Report 2</b>	
9	27-Oct	WJC			DNA cloning & sequencing	Ch 17	Lab: human VNTR (1)	
	29-Oct	WJC			Mendelian genetics	Ch 12		
	31-Oct	WJC			<i>Discussion:</i> Identifying the czars from remains	TBA		
10	3-Nov	WJC			Beyond Mendel: linkage & recombination	Ch 13	Lab: human VNTR (2)	
	5-Nov	WJC			Molecular evolution & human genome variation	Ch 23 & 24		
	7-Nov	WJC			<i>Discussion:</i> evolution of humans & chimps	TBA		
11	10-Nov	WJC			<b>TEST #3</b>		Lab: scientific literature	
	12-Nov	EHW	<b>The Evolutionary Play</b>	Why do living things change?	Natural Selection	Ch 20 (.1,.8), 21 (.1,.2)		
	14-Nov	EHW			<i>Discussion:</i> selection in humans	TBA		
12	17-Nov	EHW		What determines rates of change?	Kin and sexual selection	Ch 54 (.9,.10)	Lab: serum protein evolution	
	19-Nov	EHW			Genes in population	Ch 20		
	21-Nov	EHW			<i>Discussion:</i> Biology in the news	TBA	<b>Lab Report 3</b>	
13	24-Nov	<b>THANKSGIVING BREAK</b>						
	26-Nov	<b>THANKSGIVING BREAK</b>						
	28-Nov	<b>THANKSGIVING BREAK</b>						
14	1-Dec	EHW		How does biological diversity develop?	Population biology	Ch 55	Lab: bioinformatics of protein evolution	
	3-Dec	EHW			Species and speciation	Ch 22		
	5-Dec	EHW			<i>Discussion:</i> population genetics problems			
15	8-Dec	EHW		What broad patterns do we see in life on Earth?	Macroevolution and biogeography	Ch 22 (.7,.8)	Lab: concluding discussion	
	10-Dec	EHW			Conservation and extinction	Ch 58 (.1,.2,.6), 59		
	12-Dec	EHW			<i>Discussion:</i> biodiversity crisis	TBA	<b>Protein evolution paper</b>	

**FINAL EXAM - DEC 17, 2:00 - 5:00; DEC 18, 9:00-12:00**