Bio 34 (Evolution) syllabus, Fall 2006

Date	Lecture	Chapter	Laboratory exercise
Sept 4	1. Introduction to evolution	1	Phylogeny of selected Crum weeds using morphological characteristics and MacClade **DUE:** *Phylogeny pasted into notebook, w/notes*
Sept 6	2. Phylogenetics	2	
Sept 8	3. Phylogenetics		
Sept 11	4. Discussion:		Phylogeny of Crum weeds using DNA sequences from online databases and MacClade, others (comp. lab) **DUE:** *Phylogeny pasted into notebook, w/ notes*
Sept 13	5. Patterns of evolution	3, 4, 21	
Sept 15	6. Major events in life (exerc.)	5	
Sept 18	7. Discussion:		Population genetics of mutant allele (*ebony*) in fruit flies (multi-week laboratory experiment) **DUE:** *Notebook entry with hypothesis, sketches, etc.*
Sept 20	8. Biogeography	6	
Sept 22	9. Diversity and extinction	7	
Sep 25	10. Discussion:		Heritability of phenotype in cowpea weevils (multi-week laboratory experiment; sample fruit fly cage **DUE:** *Notebook entries, weevil mass histogram*
Sep 27	11. *Extinction*!		
Sep 29	12. **EXAM 1**		
Oct 2	13. Discussion:		Sample fruit fly cage, monitor weevil experiment **DUE:** *Notebook entries*
Oct 4	14. Mutations	8	
Oct 6	15. Population genetics, drift	9, 10	
Oct 9	16. Discussion:	22	*Darwin Exhibit* at Franklin Institute; sample fruit fly cage, monitor weevil experiment **DUE:** *Notebook entries (outside lab times)*
Oct 11	17. Natural selection	11. 12	
Oct 13	18. Natural selection		
	(. . . FALL BREAK . . .)		
Oct 23	19. Discussion:		Sample fruit fly cage (and score previous sample); monitor weevil experiment **DUE:** *Fly "[ebony] x time" graph in notebook; entries*
Oct 25	20. Phenotypic evolution	13	
Oct 27	21. Phenotypic evolution * 2PM Gogarten SC 101	13	
Oct 30	22. Discussion:		Natural selection on burdock predators (Crum meadow field experiment); sample fruit fly cage (and score previous sample), monitor weevil experiment **DUE:** *Notebook entries*
Nov 1	23. *Evol. of Social Behav. in Bees*		
Nov 3	24. **EXAM 2**		
Nov 6	25. Discussion:		Complete burdock exp.; sample fruit fly cage (and score previous sample), monitor weevil experiment **DUE:** *Graphs of burdock selection in notebook; entries*
Nov 8	26. Kin selection	14	
Nov 10	27. Sexual selection	14	
Nov 13	28. Discussion:		Sample (for last time) fruit fly cage (and score previous sample); monitor weevil experiment **DUE:** *Updated [ebony] graph in notebook; entries*
Nov 15	29. Speciation	15	
Nov 17	30. Speciation	16	
Nov 20	31. Discussion:		Score previous fruit fly samples, monitor weevil experiment before leaving for Thanksgiving **DUE:** *Notebook entries*
Nov 22	32. Fitness strategies	17	
Nov 24	*(THANKSGIVING)*		
Nov 2	34. Discussion:		Score previous fruit fly samples, monitor weevil experiment **DUE:** *Heritability graphs in notebook; entries*
Nov 27	35. *Secret Lives of Plants*	18	
Dec 2	36. **EXAM 3**		
Dec 4	37. Discussion:		**DUE:** *Final graphs of fly mutant frequencies (for peer review)*
Dec 6	38. Genome evolution	19	
Dec 8	39. Developmental evolution	20	
Dec 12	40. Discussion: creationism		**DUE:** *Write-up on ebony experiment*

Dec __ FINAL EXAM *(date to be announced, by Registrar)*