BIOLOGICAL SCIENCES 105H - SYLLABUS
Spring 2010

INSTRUCTORS	OFFICE	PHONE
Hank Ratrie	HS G25	X-6346
Theresa Hodge	HS G84	X-6426

TEXTBOOK: None. There will be various assigned readings and research.

MEETINGS: Fridays, 2:30-3:20 P.M. (Field trips TBA)

ATTENDANCE: Students are expected to attend all scheduled sessions and field trips.

STATEMENTS OF PHILOSOPHY:

1. This course is designed to offer selected members of the BIO 105, Biodiversity II, class additional opportunities to explore important and interesting topics in vertebrate biology and evolution in more depth than is possible in the large lecture format. We expect to accomplish these goals via discusssions, short papers, oral presentations, field trips *and* we expect to have fun doing it.
2. We feel strongly that *participation* is the key theme in an exploration class such as this. We will be giving various written assignments, but we will be looking specifically for all forms of intelligent contribution to the process of exploration of our topics.
3. We have identified a number of areas of vertebrate biology that we feel are interesting and we hope you will agree. We encourage you, however, to suggest for consideration, any other relevant topic that you would like to learn more about.

GENERAL TOPICS TO BE ADDRESSED (timing should roughly parallel that in lecture)**:**

1. Origins of vertebrates (interesting features may include: increasingly sophisticated sensory features, subsequent increases in brain development, more integrated neural pathways [via ganglionic relay centers], new developmental pathways [e.g. neural crest cells], new skeletal features [e.g. cranium], new behavior/lifestyle features).
2. General evolution of flight (pterosaurs, birds, bats)
3. Origins of flying birds from primitive reptiles or bipedal dinosaurs
4. Dealing with extinct animals (reptilian, mammal-like reptiles, dinosaurs, etc.)
5. Evolution of humans: from early arboreal primates to *Homo sapiens*
6. Other topics to be recognized and announced

GRADING:		
	Individual oral reports	10%
	Team oral report	20%
	Field Trip reports	10%
	Short papers	10%
	Final individual report	25%
	Individual participation	25%
	Total	100%

TENTATIVE SCHEDULE

Date	TOPIC/CONCENTRATION	ASSIGNMENT
Jan 29	Introduction. Discussion of course goals	Readings for 1st discussion
Feb 5	Discussion on Vertebrate Evolution	Vert. Evol. Paper(s) Presentations
Feb 12	Sharks/Fish	
Feb 19	Topic: Sharks/fish (short paper assigned)	Short Report
Feb 26	**Field trip:** Baltimore Zoo	
Mar 5	Amphibian - where are they all going?	
Mar 12	Amphibian/Reptile - Venoms: hazards & Uses	Short Report
Mar 19	**(SEMESTER BREAK)**	
Mar 26	**Field trip:** Maryland Reptile Rescue	
Apr 2	Dinosaurs: extinction and thermal regulation	Short paper
Apr 9	Origins of flying birds - from bipedal dinosaurs or other primitive reptiles? Or birds adaptations?	
Apr 16	Dealing with extinct animals. Looking at the fossil record.	
Apr 23	Various aspects of Human Evolution	Individual Oral Reports
Apr 30	Various aspects of Human Evolution	Individual Oral Reports