Biology 202 - Vertebrate Life - 2010

The purpose of the course is to introduce you to the diversity of vertebrates, past and present, and their specializations. In doing so I hope that you will better see how we fit into the natural world.

In this experience you will gain factual information that will allow you to underdstand the world of vertebrates.

Success will allow you to apply course material to solving problems when asked to answer questions about vertebrate life.

The course will include assigned readings, lectures, independent projects and reports as we look at vertebrates from the earliest known forms to more recently derived forms. Although our syllabus will reflect this evolutionary history, throughout the semester we will study in a topical manner the characteristic problems and solutions that faced vertebrates. These topics deal with specializations in physiology, behavior and ecology.

Syllabus

Meetings: Lecture in FJ-B or C; 11-12:15 Tue/Thur, other meetings in FJ-117w, TBA.
Zoo work will be done independently[+].

Book: *Vertebrate Life*. 8th ed. Pough, Janis, and Heiser. Prentice Hall Publ. NJ. 2009.
Bring book to lectures, demo's, and labs.
*Specific pages, where relevant, will be given on lecture and lab outlines.

Day	projects	Topic [lab/demo]	*Readings
		---------- Non-Amniotes ----------	
Jan. 14		Course Spec's, Classifications and Phylogenies	Chapt's. 1, 2*, 3*, 25*
Jan. 19		Chordate and Vertebrate Characteristics	Chapt's. 1, 2*, 3*, 25*
Jan. 21		**[Vertebrate Char's Demo, Lab]**	Chapt's. 1, 2*, 3*, 25*
Jan. 26		Early Paleozoic Life (Cambian -Devonian); Life in Wate	Chapt's 7*, 4*
Jan. 28		Major Fish Radiations	Chapt's 3, 6*. 4*
Feb. 2	2	**Quiz 1**, Fish locomotion	Chapt 6*, 4*
		[Zoo, fish lab.; **assigned 2rd, due 16th**]	Chapt 6*
Feb. 4		Late Paleozoic Life (Devonian-Permian)	Chapt 7*
		Non-Amniote Tetrapods, Early Tetrapods	Chapt 9
Feb. 9		Amphibians (Lissamphibia) & **[Demo Lissamphibia]**	Chapt. 10
Feb. 11		**Exam I**	
		---------- Amniotes ----------	

Feb 15 seminar

Feb. 16	16	Amphibians (Lissamphibia)	Chapt. 10,
Feb. 18		Early amniotes and Turtles	Chapt 9* 12
Feb. 23		Ectothermy, Desert Adaptation, Freezing Adaptations	Chapt's. 14
	23	**[Zoo, "Reptile"/Amphib. assigned 2rd, due Mar. 4th]**	
Feb.24		**Quiz 2,** Diapsids I; Archiosauriamorpha,	Chapt's 16
Mar. 2		Diapsids I; Archiosauriamorpha Dinosaurs,	Chapt's 16
Mar. 4	4	Diapsids II; Lepidosauromorpha	Chapt's 13
		["Reptile" Demo]	
Mar 9		Mesozoic Life, (lizards,Snakes,)	Chapt's. 13
		Diapsids II; Lepidosauromorpha	Chapt's 11
Mar 11		Diapsids III; Birds	Chapt. 16, 17
	11	Zoo Projects [Bird Diversity; Mammal Diversity and Social Behavior]	
<Spring Break	*Mar 14-21>*		
Mar 23		Independent Zoo Projects, Assigned March 11th due Apr 13th do div sooner. then social behavior.)	
		[Bird Diversity; Mammal Diversity and Social Behavior]	
		[Chapts: 16, 17, (birds) 20, 23, (mammals) for some reference material.]	
Mar 25		**Exam II**	

Mar 29 seminar

Mar 30		explain zoo assignment, and div. sheets due!!!!!Independent Zoo Projects
Apr 1		Independent Zoo Projects

<Easter Break Apr 1-4)>

Apr 6 forgot, but assigned test back and zoo projects discussed ind. With me

Apr. 8		Birds	Chapt. 16, 17
Apr. 13	13	Synapsids I; Early and First Mammals	Chapt's. 9*, 18, 20
Apr. 15		Life in the Cenozoic, Mammals, char's	Chapt 19, 18, 20

Apr 19 seminar

Apr. 20	**Quiz 3,** Synapsids II Modern Mammals,	Chapt's. 20, 21*
Apr. 22	Endothermy	Chapt's. 22
Apr. 27	Endothermy	Chapt's. 22
Apr 29	Anthropoid Apes including human evolution	Chapt. 24*, 25*
	Final Comments	

May 8, **Exam III** Friday, May 8, time: 830am – 11:00am

The above is set up to follow animal groups and geological times. Our goal will be to use this format to introduce organisms and then focus on their natural history and specializations.

Examples of specializations to be covered throughout the above "systematic" syllabus:

flight	glands
locomotion; water, air, and land	social behavior
homeostasis; water and ions	vision; water and land
reproduction	coloration
temperature regulation	hibernation
social behavior	behavior

Memphis Zoo and Aquarium Access

[+]The Memphis Zoo is open, 9:00am – 4:00 pm (must exit by 5pm), 7 days a week through February. Starting in March the zoo's hours change to 9am till 5pm (must exit by 6pm). Admission is $15.00 (plus $5.00 for parking) or $45.00 for a single year's "plus"-membership (12 months, one person, includes free parking and 15% gift store discount). A membership will also get you into 100 zoos throughout the US. As a Rhodes student if you bring your current student ID and an envelope or bill addressed to you showing your Memphis (or TN) address, you can enter for free on Tuesday after 2pm . I hope that the zoo will offer my students in this course a prorated membership that will allow you unlimited access from Jan-April, 2010. This is what we've arranged before, but I could not get confirmation before I was to complete this syllabus. If so, this 4 month membership will offer full "plus"-membership benefits and cost $15.00. More information will be provided in class about this four-month membership. I strongly recommend the prorated (if available) or a yearly membership, which will allow you to go to the zoo often and at your convenience. This will be a great advantage for all zoo projects.

How to communicate with the professor

Dr. Alan P. Jaslow
Office Hours, TBA and by appt.
off: 138e FJ, 843-3602,
email: AJaslow@rhodes.edu
cell: Please feel free to call before 9pm. 7days/wk, 901.832.6829

Expectations

You will be learning required material from independent readings and projects, as well as lecture and discussion. You will be expected to have covered the required material in a timely fashion, as outlined above and announced in class. Quizzes and exams will cover all lecture material, lab/demo's, zoo work, and assigned readings. The text contains many anatomical features that we will not cover in this course (especially internal structures). There may be other topics covered in some chapters for which you will not be responsible. How do you know what will be required for quizzes and exams (Q's and E's)? Those topics, case studies, and specific sections, that you will need to know for Q's and E's will be the material covered during lecture, in lecture outline, in demo or lab handouts, in zoo work, in assignment, and in a list of example exam and quiz questions. Throughout the semester, I will pass out the phylogenies for different vertebrate groups. These will be versions of the same trees given in our text. Clean copies of these phylogenies can be brought and used on exams and quizzes.

Grading

3 Exams (100pts each)

3 Quizzes (20pts each) drop 1

2 Seminar Reports. 5 pts each.

Projects are Tentative in number and value!

4 Projects/Reports [number and points 98% likely as listed, but I need flexibility. Weather, animals and class composition can change what we do.]

- Fish Zoo Assignment (8 points)
- Reptile Zoo Assignment (10 points)
- Bird Diversity (10 points)
- Mammal Diversity (8 points)
- Social Behavior Hypothesis test (10 points)

Total Course Points, as listed above = 396

Attendance

As the course content is defined by lecture and handouts, you are required to attend class. If you miss more than two classes your final grade will be lowered, and continue to be lowered each subsequent 2 absences. There will be only limited ability to make up class-work. Without my prior approval any points missed will be forfeited. Approved absences are by my discretion. Please let me know ASAP if you are ill or involved in an emergency.

This class is planned as a dialog. You will learn a lot by your own reading and work. Time that we meet together will be used for lecturing and demonstration but is also for you to ask questions. Please come prepared. Ask lots of questions. If I do not have time to answer them all in our class meeting times, I will do so outside of these times. In past years students asked many good questions that we can not yet answer. Hopefully someone (maybe you) will go on to answer these in graduate work.

Biology Dept. Seminars.

There will be several appropriate seminars this year dealing with vertebrates or changes in the paleontological past. These Bio. Seminars will all be on Monday afternoons at 4:15. I realize that this may conflict with athletic or course obligations. If so please discuss with Dr. AJ to fulfill these requirements.

2 of 3 seminars, with 5 course pts each for a 1 page report. 1 Paragraph using no more than 5 sentences stating the (or one) question asked and the answer. A 2nd Paragraph of no more than 5 sentences stating what speaking presentation techniques you appreciated as an audience member and which you did not, if any.

Seminar dates:	Mar 8	K-T boundary and mass extinctions,
	Mar 29,	Primate, Snakes and other organism distribution and conservation.
	Apr 19.	Giant Salamanders, Toads and Lizard ecology and conservation.

Notes

Successful students have excellent notes that they take first as rough notes during lecture or demonstration. They then go back to fill out these rough notes through further in expansion, from memory, readings, and discussions with other students and myself. Good notes are necessary for most students to do well. (Also see “Study Strategies in Understanding Biology” AJ’s hints, separate handout)

Bring your Book to class

. We will make extensive reference to figures from you book in lecture. It will be useful to have these in hand during lecture and demonstrations.