HERPETOLOGY – BIO 404

COURSE SYLLABUS, SPRING SEMESTER, 2001

Lecture: Mon., Wed., Fri., 1:00 – 1:50 p. m., NS 523
Laboratory: Mon., 2:00 - 4:50 p.m., NS 522 and Field Trips

PROFESSOR: RICHARD D. DURTSCHE

OFFICE: NS 506 HOURS: Wed. 9 – 11 am , Thurs. 12 – 2 pm
Telephone 572-6637 E – mail: durtsche@nku.edu

Required textbooks and field guide:

1. Conant, Roger, Joseph T. Collins, and Isabella H. Conant. 1998. *Reptiles and Amphibians of Eastern/Central North America*. Peterson Field Guide.
2. Stebbins, Robert C., and Nathan W. Cohen. 1995. *A Natural History of Amphibians*. Princeton University Press.
3. Pough, F. H, R. M. Andrews, J.E. Cadle, M. L. Crump, A. H Savitzky, and K.D. Wells. 2001. *Herpetology.* 2nd ed. Prentice Hall Press.

On reserve in library:

1. Duellman, William E., and Trueb, Linda. 1986. *Biology of Amphibians*. Mc-Graw-Hill. 670 p.
2. Halliday, Tim, and Adler, Kraig. 1986. *The Encyclopedia of Reptiles and Amphibians*.
3. Chapters 1, 4, 6, and 7 *In Biology of the Reptilia, Vol. 16, Ecology B* (1988), C. Gans and R. B. Huey, eds.
4. Cole, C. J. 1984. *Unisexual lizards.* Scientific American 250:94-100; handouts.
5. Pianka, E. R. 1986. *Ecology and natural history of desert lizards*. Princeton University Press
6. Shine, Richard. 1991. *Australian Snakes: A Natural History*. Reed Books Pty Ltd.

GRADING SYSTEM

First Midterm	20%	A = 90 - 100%
Second Midterm	20%	B = 80 - 89%
Mini Report (1)	10%	C = 70 - 79%
Laboratory Grade	30% of Course Grade	D = 60 - 69%
Field Notebook and "Collection"	1/3 of lab grade	F < 60%
Amphibian Lab Practical	1/3 of lab grade	
Reptile Lab Practical	1/3 of lab grade	
Final Exam	20%	

Missed exams must be taken within one week of the scheduled exam. If you miss an examination for medical reasons, please give the instructor a written statement to that effect signed by the attending physician. If you missed an examination for non-medical emergency, submit to the instructor the appropriate written documentation of the emergency. Make-up exams will be given in any format. **Excuses will be accepted only up to one week following the missed examination.**

Academic misconduct may result in penalties may range from grade penalties (including lowering a student's semester grade, failing a student for the course, or requiring a substitute exam or paper) to disciplinary action from the University's Academic Misconduct Board.

ATTENDANCE POLICY

I strongly encourage (but do not require) your attendance at lecture. Although your attendance record is not calculated into your overall course grade, students having several absences usually do not perform well on exams. If you miss a lecture, find someone in class to tell you what

you missed or see me. Attendance for laboratory sessions is mandatory. Several of our labs will be field oriented and the information gathered may only be available during these outings. There will also be two weekend field trips. Attendance is mandatory on **at least one** of these field trips. These field trip are designed to help students learn how to find and observe amphibians and reptiles. There will also be required one-day trips, on Monday afternoons during the laboratory period. These will be trips to local sites, but do not make plans for the early evening since we may not return before 8 or 9 pm.

LABORATORY NOTES

You will be responsible for the identification of the amphibian and reptile families of the world, the genera of the United States, and the species of Kentucky. The Conant-Collins Field Guide will be useful. Another helpful publication is:

Banks, Richard C., McDiarmid, Roy W., and Gardner, Alfred L. 1987. Checklist of Vertebrates of the United States, the U.S. Territories, and Canada. U.S. Dept. of Interior, Fish and Wildlife Service, Resource Publication 166.

There will be a short slide presentation of amphibians and reptiles during some laboratory periods with a discussion of key recognition characters. These slides may be used in the practicals in addition to preserved and living specimens.

The practical will also include questions about other information presented in the lab.

CELL PHONES AND BEEPERS

Please turn off all cell phones and beepers when coming to class. Better yet, leave them out of the classroom. This is a common courtesy folks. Classroom distractions such as this only disrupt the flow of learning and the delivery of subject information.

TOBACCO PRODUCTS

No tobacco products of any type (cigarettes, snuff, chewing tobacco, etc.) are allowed in or during class. Another courtesy.

A NOTE FOR STUDENTS WITH DISABILITIES:

If you have a disability that may prevent you from fully demonstrating your abilities, you are encouraged to contact the Services for Students with Disabilities Office (572-5180). Also, please contact me as soon as possible to discuss any accommodations that might be necessary to ensure your full participation and to facilitate your educational opportunities.

IMPORTANT DATES

Monday,	**Jan. 15**	- No Class, Martin Luther King Holiday
Friday,	**Jan. 26**	- last day to drop a class
Monday,	**Feb. 19**	- No Class, President's Holiday
Friday,	**Feb. 23**	- Lecture Exam 1 - Amphibians
Monday,	**Mar. 5**	- Laboratory Practical 1
Friday,	**Mar. 23**	- last day for withdrawal from the course without a petition to the dean
Friday,	**Apr. 13**	- Lecture Exam 2 - Reptiles
Wednesday,	**Apr. 8**	- Mini Report due
Monday,	**Apr. 30**	- Laboratory Practical 2
Wednesday,	**May 2**	- FINAL EXAM 1:00 – 3:00 pm

Remember, it is your responsibility to attend class, study, and fully understand the material presented in this course! An outline of topics to be covered is given below.

NOTE: This syllabus is subject to change at the discretion of the instructor.

TENTATIVE CLASS SCHEDULE

WEEK	LECTURE TOPIC	Required Readings & Supplementary Readings		
		Stebbins and Cohen	Pough et al.	Duellman and Trueb
Jan 8 - 12	Characteristics of amphibians; Families of Anura (frogs); families of Gymnophiona (caecilians) and Caudata (salamanders)	Chapters 1-7 (3-53) Handouts	4-8; Chapter 3	1-2; 493-553
Jan 17-19	Integument; ecdysis and cocooning; glands; water regulation and gas exchange	Handouts	Chapter 3, 5 and 6	367-379
Jan 22 - 26	Urogenital system; courtship and mating; diversity of life history modes	Chapters 17-18 (140-204)	Chapter 7 and 12	13-38; 47-60 71-86; 405-408
Jan 29-Feb 2	Vocalization Sexual selection; mating systems	Chapters 9-10 (67-88) Handouts	Chapter 11 and 12	80-89; 92; 97 107
Feb 5 - 9	Eggs and development; Larvae and metamorphosis Parental care	Chapter 17 and Handouts Chapter 18	Chapter 7 Handout	111-114; 125 139; 150-194 38-47
Feb 12 -16	Food and feeding; predators, parasites, and defense	Chapters 8 and 13 (54-66 & 110-120)	Chapters 9 and 13	229-240; 241 260
Feb 19 - 21	Disappearing amphibians	Chapters 19-20 (205-251)	Chapter 15 Handouts	
Feb 23	**FIRST MIDTERM EXAM - Amphibians**			
		Required Readings		
Feb 26-Mar 2	Is a Reptile a "Reptile?" Characteristics	Pough et al., pp. 8-11 Halliday & Adler, pp. 60-69		
	Diversity of Modern "Reptiles"	Pough et al., Chapter 4 Halliday & Adler, pp. 72-143		
Mar 5 - 9	Distribution and Biogeography of "Reptiles"	Pough et al., Chapter 10		

Mar 12 – 16	**SPRING BREAK**	
Mar 19 - 23	Relations with the Environment	Pough et al., Chapters 5, 6, and 8 Halliday & Adler, pp. 70-71
	Food and Feeding	Handouts
Mar 26 -30	Defense Mechanisms	Chapter 1 In *Biology of the Reptilia, Vol. 16, Ecology B* (1988), C. Gans and R. B. Huey, eds.
	Eggs, Sex Ratios, Parthenogenesis	Cole, C. J. 1984. Unisexual lizards. Scientific American 250:94-100; handouts.
Apr 2 - 6	Reproduction: Oviparity and Viviparity	Chapter 4 In *Biology of the Reptilia, Vol. 16, Ecology B* (1988), C. Gans and R. B. Huey, eds.
	Life Histories and Demography	Chapters 6 and 7 In *Biology of the Reptilia, Vol. 16, Ecology B* (1988), C. Gans and R. B. Huey, eds.
Apr 9 - 11	Parental Care	Chapter 4 In *Biology of the Reptilia, Vol. 16, Ecology B* (1988), C. Gans and R. B. Huey, eds.
	Communication and Social Behavior	Handouts
Apr 13	**SECOND MIDTERM - Reptiles**	
Apr 16 - 18	Population Biology and Community Ecology	Handouts *and* suggested: Pianka, E. R. 1986. *Ecology and natural history of desert lizards*. Princeton University Press, Chapters 7-8, pp. 75-111
Apr 20	**Mini Reports Due at Begining of Class**	**Mini Reports**
	Community Ecology (cont.)	Pough et al., Chapter 14 Pianka, E. R. 1986, handouts
Apr 23 - 27	Neotropical Lizard Ecology	Handouts
	Summary and catch up	
May 2	**FINAL EXAM**	1:00 - 3:00 PM

TENTATIVE LABORATORY SCHEDULE

DATE	TOPICS / ACTIVITIES
Jan. 8	Diversity of Herps/ Salamanders 3:30 - Introduction to Field Trips 4:00 - Museum Techniques and Field Notes, including preparation of Field Notebook
Jan. 15	Martin Luther King Day—**no lab**
Jan. 22	Caecilians and Salamanders continued; 4:00 Lecture on Early Evolution of Amphibians
Jan. 29	Frogs and frog calls; Salamanders continued
Feb. 5	Frogs continued Lecture on Phylogeny and Systematics Biogeography Handout
Feb. 12	Field Trip, Cicinnati Zoo
Feb. 19	President's Day—**no lab**
Feb. 26	Tadpoles: Identification and Adaptive Types Lecture on Biogeography
Mar. 5	Amphibian Lab Practical
Mar. 12 – 16	**SPRING BREAK**
Mar. 19	Crocodilians and Turtles Differences between "Reptiles" and Amphibians
Mar. 26	Local field trip
Mar. 30 – Apr. 1	Weekend field trip (required). We will leave Friday afternoon and return Sunday night.
Apr. 2	Lizards and Snakes —What are "Reptiles"
Apr. 9	Local field trip
Apr. 16	Snakes continued —Reptile origins
Apr. 20 – 22	Weekend field trip (required). We will leave Friday afternoon and return Sunday night.
April. 23	Reptiles continued—Research Techniques
Apr. 30	Reptile Practical