

FNR 598X — Advanced Herpetology

Coming Spring 2009

Instructor: Dr. Rod N. Williams
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Office Hours: MWF 11:00-12:00 (or any other time by appointment)

Textbook: Zug, G.R., L. Vitt, and J.P. Caldwell. 2001. *Herpetology: an Introductory Biology of Amphibians and Reptiles*, 2nd edition, Academic Press.

Course Description: This course will cover issues related to the ecology, evolution, and conservation of reptiles and amphibians. Students will compare and contrast morphology and molecular based approaches used to investigate phylogenetic relationships among herpetofauna, discuss general features of reptile and amphibian studies in behavioral and community ecology, and evaluate general strategies for the conservation of amphibians and reptiles.

Course Objectives:

- 1) Know the current phylogeny of reptiles and amphibians
- 2) Be familiar with herpetological studies of behavior and community ecology
- 3) Critically analyze advantages and disadvantages of current methodologies in herpetofaunal sampling
- 4) Critique empirical studies on ecology, evolution, and the conservation of reptiles and amphibians

Course Policies: Students are expected to attend lectures and participate in the Discussion meetings. You are expected to come to the Discussion meetings with questions of your own in mind and *with adequate preparation to lead the discussion on the assigned topic* (this means, at the very least, to read the paper at least twice prior to the class and to have a short list of main points and questions). Each student will select one of the papers referenced in the assigned paper, read the paper and relate the basic findings to the class when appropriate during the discussion. The general format will be for the instructor to coordinate the discussion but for students to initiate points of interest or uncertainty. If discussions lag in terms of interaction, I reserve the right to choose a student at random to lead the discussion.

Exams and Grades: There will be 2 exams and a final. The first and second exams will only cover recent material, whereas the final exam will be cumulative. Exams will be in a short answer format and cover all lecture materials and assigned readings. Grading will be as follows: each exam 20%, final 40%, participation in discussion sections 20%.

GRADE SCALE		
Exam 1	100 points	500-450= A
Exam 2	100 points	449-400= B
Final	200 points	399-350= C
<u>Participation</u>	<u>100 points</u>	349-300= D
Total	500 points	< 299= F

Makeup Exam Policy: No make-ups exams will be given unless arrangements are made with the instructor in ADVANCE.

Students with Disabilities: If you have a documented academic disability please notify the instructor at the beginning of the semester to ensure appropriate accommodations can be made during lectures and exams. All communication between students and the instructor will be strictly confidential.

Academic Honesty: Any student caught cheating will receive a “Zero” for the exam. A second offense will result in an “F” in the course. Cheating is a serious breach of intellectual integrity and will not be tolerated in this course.

Lecture #	Date	Topic	Readings
1	1/8	Overview of Cladistics	
2	1/10	Overview of Modern Amphibians and Reptiles	Zug: Ch. 3
DISC #1	1/12	NO DISCUSSION (organizing times)	
3	1/15	Urodele Phylogeny	Zug: Ch. 3
4	1/17	Urodele Phylogeny: empirical studies	
DISC #2	1/19	<i>Larson et al., 2003, Reproductive biology and phylogeny of Urodela</i>	
5	1/22	Anuran Phylogeny	Zug: Ch. 3
6	1/24	Anuran Phylogeny: empirical studies	
DISC #3	1/26	<i>Haas, 2003, Cladistics</i>	
7	1/29	Testudine Phylogeny	Zug: Ch. 3
8	1	Lasertilid Phylogeny	Zug: Ch. 3
DISC #4	1/31	<i>Engstrom et al., 2004, Systematic Biology</i>	
9	2/2	Serpentes Phylogeny	Zug: Ch. 3
10	2/5	Serpentes Phylogeny: empirical studies	
DISC #5	2/7	<i>Lukoschek and Keogh, 2006, Biol. J. Linnean Soc.</i>	
11	2/9	EXAM 1	

12	2/12	Behavioral Ecology of Amphibians: migration	Zug: Ch. 8
DISC #6	2/14	<i>Rittenhouse and Semlitsch, 2006, Biological Conservation</i>	
13	2/16	Behavioral Ecology of Amphibians: sexual selection/reproduction	Zug: Ch. 9
14	2/19	Behavioral Ecology of Reptiles: migration	Zug: Ch. 8
DISC #7	2/21	<i>Howard et al., 1997, Animal Behavior</i>	
15	2/23	Behavioral Ecology of Reptiles: sexual selection/reproduction	Zug: Ch. 9
16	2/26	Amphibian Community Ecology: observational studies	Zug: Ch. 12, 13
DISC #8	2/28	<i>Shine 2003, Proc. Royal Soc.</i>	
17	3/2	Amphibian Community Ecology: experimental studies	
18	3/5	Reptile Community Ecology: observational studies	Zug: Ch. 12, 13
DISC #9	3/7	<i>Parris, 2006, J. Animal Ecology</i>	
19	3/9	Reptile Community Ecology: experimental studies	
	3/12-3/17	SPRING BREAK – NO CLASS	
20	3/19	Measuring and Monitoring Amphibian Diversity	
DISC #10	3/21	FIELD TRIP #1	
21	3/23	Measuring and Monitoring Reptilian Diversity	
22	3/26	General Threats to Herpetofauna	Zug: Ch. 14
DISC #11	3/28	<i>Ryan et al., 2002 Forest Ecol & Mgmt.</i>	
23	3/30	EXAM 2	
24	4/2	Conservation of Pond and Stream-breeding Amphibians	
DISC #12	4/4	<i>Semlitsch, 2003, in Amphibian Cons.</i>	
25	4/6	Conservation of Terrestrial Amphibians	
26	4/9	Conservation of Testudines	
DISC #13	4/11	<i>Wyman, 2003, in Amphibian Cons.</i>	
27	4/13	Conservation of Squamates	
28	4/16	Contaminants and Herpetofauna	
DISC #14	4/18	<i>Hayes et al., 2002, PNAS</i>	
	4/20	Diseases of Herpetofauna	
	4/23	Human Exploitation of Herpetofauna	
DISC #15	4/25	FIELD TRIP #2	
	4/27	Managing Ecosystems for Herpetofauna	
	4/30	FINAL EXAMINATION (cumulative)	