Herpetology

Syllabus Fall 2008 — Biol. 583/783 (Lecture; line numbers: 43255/43306); Biol. 418/701 (Lab)

Lectures: 9:30–10:50 am, Tues/Thur. **Place: 320 Dyche**

Professor: Dr. Rafe Brown e-mail: rafe@ku.edu
417C, Dyche Hall; Phone: 864.3403 (O); Office Hours by appointment.

Lab: 3:00–5:-00 pm, Tuesday **Place: 320 Dyche**

TA: Mr. Jeet Sukumaran e-mail: jeet@ku.edu
417 Dyche Hall; Phone: 864-4556;

Text Book: Zug, G. R., L. J. Vitt, and J. P. Caldwell. 2001. *Herpetology. An Introductory Biology of Amphibians and Reptiles.* 2nd Edition. Academic Press. 630 pp. ISBN 0-12-782622-X

Additional Reading: Powell, R., J. Collins, and J. Hooper. 1998. A key to the Amphibians and Reptiles of the Continental United States and Canada. University of Kansas Press. ***Highly Recommended!***

Pough, F. H., et al. 2003. *Herpetology, 3rd edition.* Prentice Hall. Upper Saddle River, New Jersey. 577 pp. ISBN 0-13-850876-3. ***Good Reference Material.***

Duellman, W. E., and L. Trueb. 1986. *Biology of Amphibians.* The Johns Hopkins University Press. Baltimore, Maryland. 670 pp. ISBN 0-8018-4780-X. ***Good Reference Material.***

ADDITIONAL INFORMATION

This year "Herpetology" comprises two classes: a 3-hr. lecture section (Biol. 583/783, Dr. Rafe Brown) and a 2-hr. lab section (Biol. 418/701, led by Teaching Assistant Jeet Sukumaran). Attendance is mandatory in both classes in which students are registered students (see Expectations, below). We strongly recommend that all students taking lecture also register to take the lab portion of the class. We realize this simply may not be possible for some students however, serious students, with genuine interest in Herpetology will profit greatly from the combination of the two classes. In future years the lab portion of the class will probably be required.

The Herpetology Lecture portion of the class will consist of two lectures (9:30–10:50, Tues/Thurs.) by Dr. Brown; Herpetology Lab meetings will usually begin with short commentary or orientation on the subject matter, accompanied by examination of specimens, with exercises and instruction provided by Mr. Sukumaran and/or Dr. Brown.

REQUIRED TEXT

Lecture Text: The text book for the class will be *Herpetology: An Introduction to the Biology of Amphibians and Reptiles*, 2nd edition" by George Zug, Laurie Vitt, and Janalee Caldwell (2001:

Academic Press; ISBN: 1-12—782622–X). Other texts are available in the library and will be available in lab. New and used copies are available at Amazon.com and other on-line book retailers.

Laboratory: Powell, R., J. Collins, and J. Hooper. 1998. A key to the Amphibians and Reptiles of the Continental United States and Canada. University of Kansas Press.

IMPORTANT DATES

Aug. 21: First day of classes

Sept. 1: Labor Day – no classes

Sept. 6: Last day of first period drop transactions

Sept. 15: Last day to drop a class online

Sept. 19: First day to elect Credit/No Credit grade option for undergraduates

Oct. 2: Last day to elect Credit/No Credit grade option for undergraduates

Oct 16–19: fall break

Nov. 17: Last day to drop a 15-week course

Nov. 26–30: Thanksgiving break

Dec. 11: Last day of classes

Dec. 12: Stop day

Dec 15–19: finals

DISABILITIES

Any student with a disability who believes he/she needs accommodations in order to complete this course should contact the Office of Disability Resources (22 Strong Hall, 785-864-2620) and the instructor of this class immediately to be eligible for special considerations.

Your Performance Evaluation in **Lecture** will be based on the following:

1st Midterm Examination 25%

2nd Midterm Examination 25%

Final Examination 40%

Class Participation 10%

Daily schedule and tentative topic

Thur., 21Aug.
Introduction to Course
Herpetology: The Discipline
History of Herpetology

Tues., 26 Aug.
History of Herpetology cont.
The tradition of Herpetology at KU

Lab: Herp. Collections and Library
(3:00 pm in Dyche atrium)

Thur., 28 Aug.
Introduction to systematic principles
Tetrapod Origins & Phylogeny: Chapter 1:21–32 & Chapter 1:3–14;

Tues., 2 Sept.
More Tetrapods; Invasion of Land
Morphology & Definition of modern Amphibia: Chapter 3:77–87 & Chapter 2:45–76

Lab: Caecilians families and genera

Thur., 4 Sept.
Caecilian Phylogeny and Diversity: Chapter 15:367–373

Tues., 9 Sept.
Salamander Phylogeny and Diversity: Chapter 16:375–387
Lab: Salamander families

Thur., 11 Sept.
Anuran Phylogeny & Diversity I: Archaeobatrachians
Larval Amphibians: Chapter 17:389–400

Tues., 16 Sept.
Anuran Phylogeny and Diversity II: Neobatrachians: Chapter 17:400–433
Lab: Anuran families

Thurs., 18 Sept.
Amphibian Review
Questions & Discussion You ask and we answer.

Tues., 23 Sept.
Amniotes and the Controversy of Conflicting Evidence**:** Chapter 1:14–21& Chapter 3:87–103
Lab: Anuran families part II, plus review for practical exam

Thurs., 25 Sept.
1st Midterm Examination We ask and you answer

(Content up to 12 Sept.)

Tues., 30 Sept.

Reptile Morphology
The Crocodilians: Chapter 2:45–76, Chapter 19:457–564, & Chapter 20:465–466

Lab: Lab practical (amphibian families; 20% of grade)

Thurs., 2 Oct.
Turtles: Chapter 18:435–464

Tues., 7 Oct.
Sphenodon + Squamates I. Lizards: Chapter 20:467–503

Lab: Turtles (families) and Crocodiles families and genera

Thurs., 9 Oct.
Squamates II. Lizards: Chapter 20:467–503

Tues., 14 Oct.
Squamates III. Snakes: Chapter 21:503–531
Lab: Lizards (families)

Thurs., 16 Oct.
FALL BREAK – no class

Tues., 21 Oct. NSF PANEL
Squamates IV. Snakes: Chapter 21:503–531
Lab: Snakes (families)

Thurs., 23 Oct.
Recap and Discussion of Reptilian Systematics
Questions & Discussion You ask and we answer.

Tues., 28 Oct.
2nd Midterm Examination We ask and you answer.
Lab: Amphibian genera of North America

Thurs., 30 Oct.
Amphibian Reproduction: Chapter 4:107–153

Tues., 4 Nov.
Reptile Reproduction: Chapter 4:107–153
Lab: Lab Practical exam II (Reptile families; 20% of grade)

Thurs., 6 Nov.

Communication & Social Behavior in Amphibans and Reptiles: Chapter 9:221–248

Tues., 11 Nov.
Feeding and Prey & Enemies and Defense: Chapter 10:249–273 & Chapter 11:275–298

Lab: Turtle genera of North America

Thurs., 13 Nov.
Water Economy**:** Chapter 6:157–175

Tues., 18 Nov.
Thermal Ecology: Chapter 7:177–196
Lab:Lizard genera of North America

Thurs., 20 Nov
Population Dynamics: Chapter 12:301–313

Tues., 25 Nov.
Patterns of Species Diversity: Chapter 13:315–338
Lab: Snake genera of North America

Thurs., 23 Nov: Enjoy your derived reptilian feast.
No class.

Tues., 2 Dec.
Biogeography: Chapter 13:315–338

Lab: Reptile and amphibian species of Kansas

Thur., 4 Dec.
Herpetological Communities: Chapter 14:339–364

Tues., 9 Dec.
Declining Amphibians and Conservation

Lab: Review: open lab

Thur., 11 Dec.

Mon 15 Dec Lecture Final Exam 7–10:00 am.

Tues 17 Dec Lab Practical (NA genera & KS species; 40% of grade) 1:30–4:00 pm

Class Evaluation
Synthesis & Discussion: Last chance before the final for questions.