

LECTURE SYLLABUS

BIOL 4403/5407 Herpetology Fall 2018

Instructor:	Dr Sean P. Graham	Office Hours:	MWF 11-12; T-TH 2-3
Lectures:	MWF 9:00-9:50 WSB 107	Office phone:	432-837-8084
Laboratory:	M 3:-4:50 WSB 107	Email:	sean.graham@sulross.edu
Office:	WSB 221		

Course Description:

Herpetology is the study of amphibians and non-avian reptiles. This course will survey the origin, evolution, systematics, taxonomy, and diversity of amphibians and non-avian reptiles. The laboratory component of this course will make use of preserved specimens to illustrate morphology, taxonomy, natural history, reproduction, and other aspects of reptile and amphibian biology. A separate syllabus will be provided for the lab.

Many materials associated with this course (e.g. this syllabus, lecture and lab handouts, grades) will be distributed through the Blackboard web site.

Recommended Books (NOT REQUIRED):

- (1) *Herpetology, 3rd ed.* (2009). Vitt, and Caldwell. Academic Press. ISBN 978-0-12-374346-6
This text is a large and comprehensive view of Herpetology. We will not have the opportunity to cover every chapter, but purchasing this text will greatly enhance your understanding of the lecture material.
- (2) *A Field Guide to the Reptiles and Amphibians: Eastern/Central North America, 4th ed.* Robert Powell, Roger Conant, and Joseph T. Collins. Boston: Houghton-Mifflin. **(Highly recommended!)**

Required materials:

Rite in the Rain Field notebook. \$ 6-15 online. Suggested dealers: Ben Meadows, Amazon.

Exams & Grading: The table below illustrated the grading for this course. The third lecture exam will be *comprehensive* covering the entire semester. *Quizzes will be announced and cannot be made up.*

3 lecture exams @ 100 pts ea	300
Lab exams (3 @ 100 pts ea)	300
Participation/Field Notebook	50
Total Credit	650 points

A 90 — 100% B 80 — 89% C 70 — 79% D 60 — 69% F 0 — 60%

Course Objectives. At the end of the semester, students should be able to:

1. Sight-recognize the amphibians and reptiles of Texas (especially those in the Trans Pecos), and know the habitat and range in which each would be encountered.
2. Know the families and common genera of North American amphibians and reptiles.
3. Be familiar with the major groups of amphibians and reptiles around the world.
4. Explain the basic external and internal anatomical/physiological features of amphibians and reptiles.
5. Understand the reproductive biology of amphibians and reptiles.
6. Comprehend relationships and phylogenies with respect to amphibians and reptiles.
7. Use a standard field guide and key to identify amphibian and reptile species.

Student Learning Outcomes (SLOs) for Biology:

1. Demonstrate an understanding of evolution by natural selection
2. *Demonstrate an integration of environmental awareness into everyday modern life*
3. Understand how to incorporate molecular biology into the study of whole organisms
4. *Demonstration utilization of various field techniques toward addressing scientific questions in the discipline*
5. Conduct basic laboratory experiments utilizing standard observational strategies

Student Learning Outcomes (SLOs) for Biology, MS:

1. Understanding and implementation of scientific methodology
2. *Utilization of field techniques toward addressing scientific questions**
3. Be able to utilize statistics toward the analysis of data within the discipline
4. Be able to effectively disseminate scientific findings using both written and oral communication.

*this course will focus on these objectives.

Tentative schedule (subject to change)

Week	week of	Topic
1	Aug 27	Introduction
1		Evolution of amphibians from fishes
2	Sep 3	Early evolution of Amphibia
		Labor Day Sep 3 no classes, no lab
2		Characteristics of modern Caudata & Gymnophiona
3	Sep 10	Characteristics of modern Anura
3		Evolution of Amniota from Tetrapoda
4	Sep 17	Major groups of amniotes: what is a reptile?
4		Evolution of Archosauromorpha & Lepidosauromorpha
First Exam: September 28, 2018		
5	Sep 24	Water Economy
6	Oct 1	Gas Exchange
6		Temperature
7	Oct 8	Evolution of Endothermy/Thermoregulation
7		Amphibian & Reptilian Locomotion
8	Oct 15	Special sensory adaptations
8		Special sensory adaptations
Second Exam; October 26, 2018		
9	Oct 22	Special sensory adaptations
10	Oct 29	Amphibian and Reptile foraging behavior
10		Escape from predation by amphibians and reptiles
11	Nov 5	Reproductive biology of Caudata and Gymnophiona
11		Reproductive biology of Anura
12	Nov 12	Reproductive biology of Anura
12		Reproductive Biology of Reptilia (11/16 Last day to drop with a W)
Thanksgiving Holiday Nov 21-23		
13	Nov 26	Reproductive biology of Reptilia
13		Conservation of Herps

Last day of class Dec 5. Finals Week Dec 7; 10-12

Students enrolled in distance education courses have equal access to the university's academic support services, such as Smarthinking, library resources, online databases, and instructional technology support.

For more information about accessing these resources, visit the SRSU website. Students should correspond using Sul Ross email accounts and submit online assignments through Blackboard, which requires secure login information to verify students' identities and to protect students' information. The procedures for filing a student complaint are included in the student handbook. Students enrolled in distance education courses at Sul Ross are expected to adhere to all policies pertaining to academic honesty and appropriate student conduct, as described in the student handbook. Students in web-based courses must maintain appropriate equipment and software, according to the needs and requirements of the course, as outlined on the SRSU website.

Sul Ross State University is committed to equal access in compliance with the Americans with Disabilities Act of 1973. It is the student's responsibility to initiate a request for accessibility services. Students seeking accessibility services must contact Mary Schwartz, M. Ed., L.P.C., in Counseling and Accessibility Services, Ferguson Hall, Room 112. The mailing address is P.O. Box C-122, Sul Ross State University, Alpine, Texas 79832. Telephone: 432-837-8203 8691. E-mail: mschwartz@sulross.edu