

Biology 376, Herpetology, Spring 2013

Course overview

Faculty	Peter Zani, Ph.D.
Contact information	Office: 444 TNR; Phone: 715-346-4240; E-mail: pzani@uwsp.edu
Office hours	10:00-10:45 MTWRF, if the door is open, or by appointment

Course description

This course introduces you to the biology of herptiles. We will explore the diversity of amphibians and reptiles, their evolutionary change & diversification through time, as well as the unique aspects of these organisms.

Course goals

Instill an appreciation of amphibians and reptiles including their evolutionary history as well as the levels & types of diversity world-wide.

Explore the unique morphological, physiological, and ecological adaptations of amphibians and reptiles that allow them to persist in functioning ecosystems as well as the threats to their continued existence.

Develop your ability to identify the amphibian and reptile species of Wisconsin, the genera of the United States, and the families of the world.

Course readings

The two required texts for this course are:

- 1) Herpetology: An Introductory Biology of Amphibians and Reptiles 3rd Ed. by Laurie J. Vitt & Janalee P. Caldwell
- 2) Reptiles & Amphibians of Wisconsin Field Guide by Stan Tekiela

There may also be supplementary materials provided as needed. You are expected to read the assigned pages prior to lecture & then review those pages again after class. I also strongly recommend a regional or national field guide such as:

- 3) Reptiles & Amphibians of Eastern & Central North America 4th Ed. by Roger Conant & Joseph T. Collins

Course evaluation:

Your grade in this course will be based on the following components totaling 960 pts:

Participation	Lecture Exams (3)	Lab Practicals (2)	Lab Quizzes (7)	Field Notebooks	Projects
100	450 (150 ea.)	200 (100 ea.)	70 (10 ea.)	50	90

Attendance / Participation

Class attendance is expected (yes, you are required to come to class and lab). In addition, participation in classes, labs, and field trips is expected, including answering questions posed in class, asking questions, participating in classroom and lab discussions, and collecting animals during field excursions.

Notes on Lectures

Amphibians and reptiles have been and continue to be model organisms for many areas of biology including immunology, behavioral ecology, physiology, community organization, etc. They have a long and interesting evolutionary history, which we will attempt to trace and understand. Almost all of the diversity component of this course will be presented in lab, which means that lectures will focus on aspects of amphibians and reptiles that make them unique and interesting biological entities. There will be three exams at roughly equal intervals. These exams will not be comprehensive, though the material does build throughout this semester. Exam questions will consist of multiple-choice, short-answer, and a few longer essay-type questions.

Notes on Labs

While lectures will focus primarily on the unique aspects of herptile biology, lab will focus almost exclusively on taxonomy, identification, and techniques. *You are responsible for the identification of the amphibian and reptile families of the world, the genera of the United States, and the species of Wisconsin.* There will be a short presentation of amphibians and reptiles during each laboratory with a discussion of key recognition characters. Keys and other handouts pertaining to the topics under study will be provided at each lab. I strongly recommend that you read the chapter(s) in Vitt and Caldwell pertaining to the groups to be covered that week PRIOR to lab. The slides shown in lab may be used in quizzes/practicals in addition to preserved, living, or other specimens. The quizzes/practicals will also include questions about other information presented in the lab. For the seven diversity labs there will be an exit quiz that you must score $\geq 70\%$ to be allowed to leave the lab. Your quiz score will count regardless of what you score, but if you fail ($< 70\%$) you will be asked to review the material again before re-taking the quiz.

Notes on Field Trips

During the second, warmer, half of this semester we will spend most of our lab time out on field trips. These will primarily be local trips (e.g., Mead Park, Patch Street, etc) that will return to TNR by 3:50pm. At least one of these will be a nighttime trip to listen/look for amphibians (e.g., Schmeckle or Mead Park). One of these trips will be a weekend excursion to southern Wisconsin. This is currently planned for April 27th and 28th. For this trip we would leave UWSP *early* on Saturday, stay overnight, return late on Sunday. This trip will cost about \$35 per person; more on that in the coming weeks.

Field Notebooks

An important component of field biology is the field notebook. A good notebook will contain information about specific location, weather, habitats, types/numbers of animals observed/caught, and be illustrated with relevant drawings. On each field trip you should record your natural history observations in a field notebook; this can be something simple such as a composition book or a Rite in the Rain weather-proof notebook (both of which are available at the UWSP bookstore).

Projects

As part of this course we as a class will create an amphibian and reptile study guide. For these we will assign (randomly) the species of Wisconsin and representatives of common North American species that you will research and develop a brief summary of using Powerpoint. A sample format for these will be provided. We will work on this project for amphibians and reptiles separately during the first part of this semester, peer review the resulting accounts, and provide you the opportunity to revise before grades are assigned. These accounts will then be made available to you as a study tool for the lab practicals later in the semester. Suggested resources for this include the Center for North American Herpetology (cnaah.org), HerpNet (herpnet.org), the IUCN Red List of Threatened Species (iucnredlist.org), and even (gasp!) Wikipedia.

Final Grades

Your final grade is based on the percentage of points that you earn.

≥93% = A, ≥90% = A-, ≥87% = B+, ≥83% = B, ≥80% = B-, ≥77% = C+, ≥73% = C, ≥70% = C-, ≥67% = D+, ≥60% = D, <60% = F

In-Class Behavior

You are expected to be respectful & considerate of your fellow students' learning environment. In addition, you are expected to focus on the topics of the day in lectures/labs. Thus, certain electronic devices are considered by me to be distractions & not allowed in the classroom. Primary among these are cell phones & computers. *All cell phones* are to be silenced & put away during class. No texting, no calls, no exceptions (if you violate this you should **expect** participation points to be affected negatively). Unless you have a documented learning disability that requires a laptop to take notes, there are to be no computers during lectures as they are potentially distracting to you and to other students. During lectures we may engage in periodic discussions of relevant issues. You are not required to *agree* with every opinion expressed by me or your peers; in fact, healthy skepticism is to be expected of any good scientist. However, you should respect the right of others to hold different opinions & perhaps even learn from their viewpoints. You are expected and encouraged to ask questions & participate in discussions where appropriate (remember part of your grade depends on class participation). In addition, recall that during field excursions you are an ambassador of UWSP. You are to conduct yourselves accordingly. Furthermore, we will be handling vertebrate animals on a regular basis, which require special permissions from this university and from the state of Wisconsin. Thus you are considered an agent of me for the purposes of collecting and handling animals. **Most importantly**, you are in no way allowed to collect or handle live venomous animals in this class. Specifically, I refer to rattlesnakes (though it extends to any viperid or elapid). Violation of this rule is subject to automatic failure for the course; that is, if you catch or handle a venomous reptile in this course I am likely to give you a grade of "F".

Academic Honesty

Plagiarism and cheating of any form are serious offenses and may result in an F for the assignment, the course, or expulsion from the university. The details of the UWSP Academic Integrity policy are found in the Student Handbook. It is your responsibility to read and understand the contents of that policy before you submit work to be graded. Questions regarding the policies and enforcement of the policies may be addressed to me during office hours.

Notification of Participation in College Sanctioned Events

Individuals who participate in college-sanctioned events must notify me in advance and plan on completing the work, including tests, in advance. It is your responsibility to communicate with me in advance regarding *any* absences.

Concerning Disabilities

UWSP abides by the Americans with Disabilities Act and Section 504 of the Rehabilitation Act of 1973 that stipulates no student shall be denied the benefits of an education "solely by reason of a handicap." Disabilities covered include, but are not limited to, learning disabilities, hearing, sight, mobility or health-related impairments. Please contact me if you have a documented issue that may impact your work for which you require accommodations.

Class Schedule (tentative)

Wk	Day	Date	Class Topic	Chpt	Lab	Class Project
1	T	Jan. 22	History of Herpetology	2	Lab Intro; Project Intro	Picking Amphibs.
1	R	Jan. 24	Anatomy of Herptiles	2		
2	T	Jan. 29	Tetrapod Relationships	1	Caecilians & Salamanders	Amphibian Research
2	R	Jan. 31	Evolutionary Systematics	1		
3	T	Feb. 5	Evolutionary History of Herptiles	3	Frogs I	Draft Amphibs. Due At Lab Start
3	R	Feb. 7	Evolutionary History of Herptiles	3		Peer Review In Lab
4	T	Feb. 12	Reproduction	4	Frogs II	Amphib. Revisions Due At Lab Start
4	R	Feb. 14	Reproductive Modes	5		
5	T	Feb. 19	Life Histories	4	Crocs & Turtles	Final Amphibs. Due At Lab Start
5	R	Feb. 21	Water Balance	6		Picking Reptiles
6	T	Feb. 26	EXAM #1		Lizards I	Reptile Research
6	R	Feb. 28	Gas Exchange	6		
7	T	Mar. 5	Thermoregulation	7	Lizards II/Snakes I	Draft Reptiles Due At Lab Start
7	R	Mar. 7	Performance & Energetics	7		Peer Review In Lab
8	T	Mar. 13	Spacing	8	Snakes II	Reptile Revisions Due At Lab Start
8	R	Mar. 14	Movement & Orientation	8		
9	T	Mar. 19	Communication	9	Open Lab	Final Reptiles Due At Lab Start
9	R	Mar. 21	Social Behavior	9		
SPRING BREAK						
10	T	Apr. 2	Herpetological Societies		Field Methods	
10	R	Apr. 4	Foraging Ecology	10		
11	T	Apr. 9	Diets	10	Field Trip	
11	R	Apr. 11	EXAM #2			
12	T	Apr. 16	Defense	11	Amphib. Practical; Field Trip	
12	R	Apr. 18	Escape	11		
13	T	Apr. 23	Ecology	12	Reptile Practical; Field Trip	
13	R	Apr. 25	Ecology	12		
13	Apr. 27-28 <i>Overnight Field Trip to The Dells; depart TNR Saturday 7am, return Sunday 7pm</i>					
14	T	Apr. 30	Biogeography	13	No Lab	
14	R	May 2	Phylogeography	13		Field Notebooks Due May 3, 5pm
15	T	May 7	Conservation	14	Field Trip	
15	R	May 9	Conservation	14		