

WFS 493/560
Amphibian Ecology and Conservation
Spring 2007

Instructor: Dr. Matthew Gray (*mgray11@utk.edu*)
Phone: 974-2740 (office), 385-0772 (cell)
Office: 247 Ellington Plant Sciences Building
Website: <http://fwf.ag.utk.edu/mgray/wfs493/493home.htm>

Meeting Time & Place: T,Th 5:45–7:35 p.m., 125 PBB (2 field trips required: see pg 3)

Course Sections: WFS 493 (section 001), WFS 560 (section 002)
Course Credits: 3 credits

Life History Text: Biology of Amphibians, 1994, 2nd edition (ISBN 080184780X)
Authors: William E. Duellman and Linda Trueb

Conservation Text: Readings will come from contemporary literature and several books.

Course Goal: To expose students to the life history, ecology, conservation and management of amphibians through a combination of class lectures, readings and field experiences.

Weights of Academic Assessments:

WFS 493		WFS 560	
● Test #1	30%	● Test #1	25%
● Test #2	30%	● Test #2	25%
● Anuran ID Exam	20%	● Anuran ID Exam	20%
● Participation ^{1,2}	20%	● Participation ^{1,2}	10%
		● Scientific Paper ³	20%

¹Attendance on the 2 field trips is required. You will earn 10% and 5% per trip for WFS 493 and 560, respectively.

²If you miss a field trip, you can either: (1) attend the USGS Workshop or SE PARC meeting, (2) write a 10-page scientific paper on an amphibian topic of your choice, or (3) accept the percent deduction (10% or 5%) in your final grade corresponding to the appropriate course number.

³Due on **12 April 2007** (although it can be turned in anytime prior to this date); style must follow the *Journal of Wildlife Management* (see Volume 70(1):304-320).

Your course grade will be determined using the following scale:

Grade	Final Weighted Percent		Grade	Final Weighted Percent
A	90–100%		C	70–76%
B+	87–89%		D	60–69%
B	80–86%		F	<60%
C+	77–79%			

Extra Credit:

You can positively influence your final grade as much as **4.5%** by volunteering for extra credit. Volunteer work must be related to herpetofauna, and can include work on university projects, government agencies or NGOs. For every **8 hours** of volunteer work, your final grade will be increased by **1.5%** up to **4.5%** (24 hours total). All volunteering must be completed by **26 April 2007**. A volunteer form (see website) must be filled out by the supervising individual. Scott Dykes and Pete Wyatt (TWRA non-game biologists) often are looking for volunteer assistance (Region 4 Office: 1-800-332-0900; scott.dykes@state.tn.us, pete.wyatt@state.tn.us). Also, Wayne Schacher (consulting biologist for Seven Islands Wildlife Refuge) frequently needs help with herpetofaunal surveys (457-4355 home, whschacher@natreserv.com).

Extra credit also can be earned by attending either: (1) the USGS Workshop: Understanding Agriculture's Effects on Amphibians and Reptiles in a Changing World (St. Louis, MO) or (2) the Annual Meeting of the Southeastern Partners in Amphibian and Reptile Conservation (Chattanooga, TN). Your final grade will be increased by **3.5%** and **2.25%** for attending the USGS Workshop and SE PARC meeting, respectively.

<p><u>NOTE</u>: A maximum of 4.5% can be earned in extra credit in WFS 493/560.</p>
--

Scientific Paper: (WFS 560 or Make-up for Missed Field Trip) DUE: 4/12/07 or before

Choose an amphibian topic of interest (related or unrelated to a lecture topic) and write a ≥ 10 -page paper. The title page and literature cited are not included in the length requirement, and over $\frac{1}{2}$ of the 10th page must have text. The paper must be written scientifically and include ≥ 5 non-Internet references (e.g., journal article, book chapter). The style of headings, in-text referencing, and the literature cited format must follow the *Journal of Wildlife Management* (Volume 70(1):304-320). Your paper must be double-spaced using 10- or 12-pt Times New Roman font with 1" margins.

Basic website on scientific writing:

<http://abacus.bates.edu/%7Eganderso/biology/resources/writing/HTWgeneral.html>

Good American Scientist article on scientific writing:

<http://www.americanscientist.org/template/AssetDetail/assetid/23947?fulltext=true&print=yes>

Good book on scientific writing: "The craft of scientific writing" (ISBN 0387947663)

ADA Accommodation:

Any student who, because of a disability, may require special arrangements in order to meet course requirements should contact the instructor as soon as possible to make such accommodations as may be necessary.

Religious Holy Day Observance:

A student who is absent from classes for the observance of a religious holy day shall be allowed to take an examination or complete an assignment scheduled for that day within a reasonable time after the absence IF, not later than the FIFTEENTH day after the first day of the semester (i.e., 01/25/07), the student has notified the instructor of each scheduled class that the student would be absent for a religious holy day.

Tentative Lecture Schedule

Month	Day	Topics ^{1,2,3}	Instructors
January	11	Introduction, Tennessee Anuran ID	Gray
	16	Origin and Evolution of Amphibians	Gray
	18	Reproductive Strategies	Echternacht (UT)
	23	Courtship and Mating	Gray
	25	Tadpole Morphology and Ecology	Gray
	30	Metamorphosis	Gray
February	1	Postmetamorphic Interactions & Survival	Gray
	6	USGS Workshop: Agriculture's Effects on Amphibians, St. Louis, MO	No class—Attend TAMP Workshop
	8		
	9 (Fri)	TAMP Workshop (12-4:30 pm)	Bob and Pandy English
	13	Anuran ID Exam, Importance of Body Size	Gray
	15	Postmetamorphic Dispersal	Rothermel (APSU)
	20	Environmental Stressors	Adams (ORNL)
	22	SE PARC Meeting: Chattanooga, TN	No class (attend meeting if possible)
	27	Test #1	
March	1	Influences of Agricultural Cultivation	Gray
	6	Influences of Cattle Grazing	Burton, Schmuzter (UT)
	8	Influences of Urbanization and Roads	Gray
	13,15	Spring Break	
	20	Techniques for Amphibian Capture, Marking, Euthanasia, and Clearing	Burton, Schmuzter (UT)
	22	Field Trip (Meet at Seven Islands Wildlife Refuge)	Burton, Schmuzter (UT)
	27	Tennessee Cave Salamander Biology	Niemiller (UT)
	29	Global Amphibian Population Declines	Gray
April	3	Amphibian Populations in TN	Wyatt & Dykes (TWRA)
	5	UV-B Radiation	Gray
	10	Amphibian Malformations	Gray
	12	Amphibian Diseases and Pathology	Miller (UGA)
	17	Ranaviruses	Gray
	19	Chytrid Fungus in Panama	Brenes (SIU)
	21 (Sat)	Smoky Mountains Field Trip	Gray, Brenes
	24	Conservation and Management	Gray
	26	Test #2	

¹No class on 6 and 8 February because of the USGS workshop, although please attend TAMP workshop on Friday (9 Feb) afternoon (Hollingsworth Auditorium).

²No class on 22 February (SE PARC Meeting). Interested students can attend (22 and 23 Feb) and earn **2.25%** extra credit.

³University transportation will be provided for the Great Smoky Mountains field trip but not to Seven Islands Wildlife Refuge (east Knox County). Directions will be provided to SIWR.