



## BIO 342: Herpetology Spring 2014

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Office Hours:  
M: 9-10:30 & 2-3  
W: 9-10:30  
Th: 9-10

**Lecture:** MW 8:00–8:50 AM (Boehm 262)

**Laboratory:** T 8:00–10:50 AM (Boehm 240)

**Text:** Vitt, L.J. and J.P. Caldwell. 2009. Herpetology: An Introductory Biology of Amphibians and Reptiles. Academic Press (3<sup>rd</sup> ed.), Burlington.

Conant, R. and J.T. Collins. 1998. Field Guide to Reptiles and Amphibians: Eastern & Central North America. 3<sup>rd</sup> Edition. Houghton Mifflin Co., Boston.

### **Optional text & other resources:**

Hulse, A.C., C.J. McCoy, and E.J. Censky. 2001. Amphibians and Reptiles of Pennsylvania and the Northeast. Cornell University Press, Ithaca.

Shaffer, L.L. 1999. Pennsylvania Amphibians & Reptiles. Pennsylvania Fish & Boat Commission, Harrisburg.

Meshaka, W.E. and J.T. Collins. A Pocket Guide Series. A collection of four guides to PA Herpetofauna. Can be purchased at <http://www.pabookstore.com/natural-history-and-science.html>

Voices of the Night: the Calls of the Frogs and Toads of Eastern North America. Audio CD. Can be purchased from the Cornell Lab of Ornithology.

**Additional Supplies:** Dissecting Kit, Latex gloves, lab coat (optional), safety goggles (optional)

**Course Description:** This course will provide an introduction to the biology of reptiles and amphibians. Emphasis is on evolution, comparative anatomy and physiology, ecology, life-history, diversity, and conservation of these groups. Laboratories will provide hands-on investigation of reptile and amphibian anatomy, research techniques, habitat quality, and species identification. Weekend field trips may be required in the course.

**Course Objectives:** Upon completion of this course, the successful student should be able to:

1. Explain the evolutionary history of reptiles and amphibians.
2. Describe and/or utilize the various methodologies employed in reptile and amphibian research.
3. Describe the anatomical, physiological, ecological, and behavioral characteristics of each major group of reptiles and amphibians.
4. Describe the diversity and biogeography of extant reptiles and amphibians.
5. Discuss contemporary issues of policy, conservation, and research, which relate to reptiles and amphibians.
6. Identify the reptiles and amphibians of Pennsylvania by sound (frogs only) and sight.
7. Locate and critique primary literature on reptile and amphibian biology.

## Grading:

### Lecture

Exam 1	100 pts
Exam 2	100 pts
18 Lecture Quizzes (D2L) @ 5 pts	90 pts
Final exam (semi-cumulative)	150 pts
<u>Lecture Participation</u>	<u>25 pts</u>
Lecture total	465 pts

### Laboratory

Herp-of-the-Day Presentation	20 pts
Diversity quizzes (15 pts x 4)	60 pts
Anatomy Quiz	25 pts
Frog Call Quiz	25 pts
Frog Call Lab Assignment	20 pts
Herp Show Assignment	15 pts
Service Project Proposal	15 pts
Service Project	60 pts
Service Project presentation	20 pts
Participation in Paper Discussions	15 pts
<u>Lab Participation</u>	<u>25 pts</u>
Lab total	300 pts

Lecture Total	465 pts (~60%)
<u>Lab Total</u>	<u>300 pts (~40%)</u>
Course Total	765 pts

Your grade for this course will be determined as follows:

93% or above = A	83-86% = B	70-76% = C
90-92% = A-	80-82% = B-	60-69% = D
87-89% = B+	77-79% = C+	59% or less = F

Lecture Exams: Exams will test your understanding of material presented in lectures, but may also include information from the assigned text. The text is an important resource for this course and it is recommended that you read this material before coming to lecture. The final exam is semi-cumulative, where approximately 50% of the points are designated as cumulative and 50% of the points designated for new material.

Lecture Quizzes: Lecture quizzes will test your understanding of the current day's lecture material and will be administered via D2L. Each quiz will be posted immediately after lecture and will remain available until the beginning of the following lecture. Quizzes will be open book/notes; however, each quiz will have a time limit, so preparation will be required. You may not receive any help from other classmates. In other words, discussing the content of the quizzes before Dr. Stone has posted the results is considered academic dishonesty. Each quiz is worth 6 points. You will be given the opportunity to take at least 20 quizzes with at least the lowest 2 grades being dropped (Total of 18 graded quizzes). Time permitting the instructor may add additional quizzes, with the lowest quiz score being dropped with each additional attempt. **Missed quizzes cannot be made up for any reason.**

Participation: Studies have shown that students who are actively engaged in lecture/lab activities perform better in class. To encourage active engagement, 25 participation points have been assigned to lecture and 25 points have been assigned to lab. Activities that contribute to your participation grade include, but not limited to, attendance, arriving on time to class/lab, active participation in class discussions, asking questions, staying on task, and contributing to the success of your peers.

Herp-of-the-Day Presentation: Each student will be responsible for giving an 8-10min presentation (+5 minutes for questions) on a species of reptile or amphibian of your choice. You will be given more detail on the expectations for this assignment in lab.

Service Project: You will be responsible for completing a service project related to the conservation and/or education of reptiles and amphibians. Details on the content of the project will be provided in lab; however you will be expected to develop a proposal and some tangible product or report related to your project. Additionally, you will give an oral presentation to the class about your project.

Lab Assignments: There will be 2 lab assignments due throughout the semester. More information on these assignments will be given to you in lab.

### **Policies:**

Contacting me: See me during office hours or set up an appointment to discuss anything that is troubling you. You are invited to drop by my office for a friendly chat, to discuss academic difficulties, or to address any other items that may be affecting your performance in class. I want to emphasize that if you are having problems understanding the material, see me as soon as possible; do not wait until the last three weeks of the semester to seek help!

Late assignments/quizzes: Late assignments will be docked 10% per day late (including weekends). Assignments and quizzes will be collected/given at the beginning of lab. If you are late to class, assignments will be considered 1 day late. Missed quizzes due to lateness will receive a zero.

Attendance: Attendance in class and lab every week is mandatory. In addition to participation points, you will forfeit all points for any quiz/assignment/test associated with a class or lab that you miss for an unexcused reason. I will make every reasonable effort to help you make up work for any labs missed for excused reasons; however, you are responsible for tracking me down and making all arrangements. Absences will be considered excused only if you can provide written documentation of the excuse. You must contact me within 24 hours of missing lab with written documentation. If not, absences will be considered unexcused even if it was for an excused reason. Exemptions may be given due to extenuating circumstances at my discretion.

Lab Safety: The Biology Department's lab safety policy is attached to this syllabus. You are required to sign an agreement stating that you will abide by this policy. In this course, the principle safety hazard is the handling of specimens that have been preserved with hazardous chemicals. Always wear latex gloves when handling these specimens and wash your hands thoroughly when finished. Goggles and lab coats are recommended, but not required.

Academic Honesty: I take academic honesty very seriously and will sanction violations to the fullest extent allowable under University policy. Academic dishonesty will blemish your record for life. It is not worth it! In this course, assignments are required to be performed individually. In certain labs you may be asked to work with classmates; however, **all** turned in work must be done on your own, unless specifically

authorized by me. The only exception to this rule is the service project, which is a group effort. In general, if you are uncertain as to the amount of collaboration permitted, see me. **Do not assume!!!!** For a complete review of University academic honesty policy see refer to *The Key* <http://www2.kutztown.edu/TheKey>

Specimen Handling: Preserved specimens are fragile and should be treated carefully. Specimens should always be handled by the trunk of the body and never by any appendages (e.g. legs, tail, head, etc.). When you are finished observing the specimen return it to the jar immediately because specimens quickly dry.

Accommodations: If you need, or think you may need, accommodations for any disability, I encourage you to contact me privately as soon as possible. Assistance can also be obtained through the Disability Services Office (215 Stratton Administration Building, 610-683-4108).

Etiquette: I strive to maintain a professional and productive learning environment for you and your fellow classmates. Please refrain from talking with classmates while I am addressing the class. Such behaviors are distracting and disrespectful to me and your classmates. Use of cell phones or personal electronic devices at any time is prohibited unless specifically authorized by me. **If I see you sending texts, receiving texts, or talking on your phone during class, I will reduce your overall class percentage.** Your final percentage will be lowered 2% for the first offense, 5% for the second offense, and 10% for each additional offense. You are expected to arrive to class on time and should expect the same from me. If I am ever late to class each person present (and on time) will be given a bonus worth 1% of their grade.

D2L: You will need to regularly log into “Desire to Learn” (D2L) for this course. I will post copies of all lecture notes and handouts on D2L. Additionally, you will take all lecture quizzes on D2L and some assignments will be turned in via dropbox. If you have never used D2L or have trouble logging on, please e-mail me or see me ASAP.

**Additional Resources:**

PA HERP- <http://www.paherp.com> Excellent source of photographs, information, distribution (although incomplete) of PA species.

Center for North American Herpetology (CNAH) – A must for anyone thinking of becoming a professional herpetologist.

North American Amphibian Monitoring Program (NAAMP) – PA frog call resource.  
<http://www.pwrc.usgs.gov/naamp>

PA Fish and Boat Commission. A good source of information on regulations pertaining to PA reptiles and amphibians. <http://fishandboat.com>

NEPARC – Northeastern Partners in Amphibian and Reptile Conservation

## Tentative Lecture Schedule (Spring 2014)

<u>Date</u>	<u>Topic</u>	<u>Reading</u>
1/22	Introduction to Herpetology	
1/27	Evolution & Systematics	Ch 1, 3, 13
1/29	Evolution & Systematics	Ch 1, 3, 13
2/3	Comparative Anatomy	Ch 2
2/5	Comparative Anatomy	Ch 2
2/10	Comparative Anatomy	Ch 2
2/12	Diversity & Biogeography	Ch 13, 15-21
2/17	Diversity & Biogeography	Ch 13, 15-21
2/19	Diversity & Biogeography	Ch 13, 15-21
<b>2/24</b>	<b>Exam 1</b>	
2/26	Reproduction & Life History	Ch 4 & 5
3/3	Reproduction & Life History	Ch 4 & 5
3/5	Reproduction & Life History	Ch 4 & 5
3/10	Water Balance and Osmoregulation	Ch 6
3/12	Water Balance and Osmoregulation	Ch 6
<b>3/17 &amp; 19</b>	<b><i>Spring Break - No Class</i></b>	
3/24	Circulation and Respiration	Ch 2 & 6
3/26	Energy, Metabolism, and Thermoregulation	Ch 7
3/31	Energy Metabolism, and Thermoregulation	Ch 7
<b>4/2</b>	<b>Exam #2</b>	
4/7	General Ecology	Ch 12
4/9	General Ecology	Ch 12
4/14	Behavioral Ecology	Ch 8-11
4/16	Behavioral Ecology	Ch 8-11
4/21	Behavioral Ecology	Ch 8-11
4/23	Behavioral Ecology	Ch 8-11
4/28	Population Biology & Conservation	Ch 14
4/30	Presentation of Laboratory Projects (20)	
<b>5/9</b>	<b>Final Exam (semi-cumulative, 150 pts), Friday at 8:00AM</b>	

### Tentative Lab Schedule

Date	Topic	Assignment Due (points)
Jan 21	Introduction to course & IACUC training	Form Project Groups
Jan 28	Diversity & morphology of PA turtles & lizards	Service Project Idea
Feb 4	Diversity & morphology of PA snakes	Quiz on PA Turtles & Lizards (15)
Feb 11	Diversity & morphology of PA frogs & toads	Quiz on PA Snakes (15)
<b>Feb 18*</b>	<b>***Class will not meet during normal lab time*** Field Trip to Hamburg Reptile Show – February 22nd (\$8 admission) - Leave at 9:00AM from Boehm parking lot</b>	
Feb 25	Diversity & morphology of PA salamanders	Hamburg Trip Assignment (15) & Quiz on PA Frogs & Toads (15)
Mar 4	Comparative anatomy	Quiz on PA Salamanders (15)
Mar 11	Comparative anatomy	Service Project proposal (15)
Mar 18	<i>Spring Break – No Lab</i>	
Mar 25	Anuran call lab	PA Frog Call Quiz (25)
<b>Apr 1*</b>	Class will meet briefly to take Anatomy Quiz. Field Trip to Clyde Peeling’s Reptiland – <b>April 6th (\$14 admission) - Leave at 9:00AM from Boehm parking lot</b>	Anatomy Quiz (25)
Apr 8	Groups meet individually w/ Dr. Stone and work on Service Projects	Anuran Call Lab Assignment (20)
Apr 15*	Field Trip or TBA	
Apr 22	Field Trip or TBA	
Apr 29	Field Trip or TBA	Service Project (60)

\*Indicates a weekend fieldtrip (weather permitting). Please do not schedule work or other personal obligations on these weekends. Most weekend field trips will be on a Saturday morning-early afternoon