

Biology 457, Fall 2014

Herpetology

Optional Text: Herpetology (3rd edition), by Pough et al. I will not follow the text directly and I will list readings to supplement particular topics. I will also provide occasional handouts as references. For Lab: A Field Guide to the Amphibians and Reptiles of Iowa, by LeClere. This will be an extremely useful text for both the field and lab components of lab.

Content: This is a syllabus for Herpetology, which is a 2-credit lecture course and a 1-credit lab. This course will focus on key evolutionary and ecological aspects of amphibians and reptiles (i.e., herps). Lectures will address the scientific utility of herps by exploring trait diversity, evaluating insightful case studies, and discussing ecological consequences and conservation implications. Labs will emphasize survey methods, taxonomy, identification, and natural history of herps.

Prerequisite: BIOL/AECL 365 or BIOL 351. Proof is required of past or current enrollment in one of these or an equivalent course from another university.

Classes: I will lecture but also expect free discussion. I encourage you to ask questions even if they seem totally simple and you think you just dozed off and missed the point. Obviously, you won't benefit if you don't understand what we're discussing. Also, I do not distribute course notes or PowerPoint presentations. Not surprisingly then, I expect you to attend class regularly and promptly (plus the exams will come almost solely from the class lectures).

If you have either certain religious practices/observances or a documented disability and anticipate needing accommodations in this course, please make arrangements to meet with Dr. --- within the first two weeks of class. In the latter instance, please also request that Disability Resources (1076 Student Services Building, 4-7220) send a SAAR form verifying your disability and specifying the required accommodation.

Lecture Course Requirements:

- 1) Midterm exam #1 29 September 20%
- 2) Midterm exam #2 29 October 20%
- 3) Paper 17 November 20%
- 4) Final exam 15 December 20%
- 5) Journal discussion 3 dates 10%
- 6) Attendance + Participation Entire semester 10%

The lecture exams will consist of short answer and essay-style questions devoted to interpretation and problem solving. Coherent writing will be necessary to answer the questions. Don't cheat. I take it very seriously and do not tolerate it in any form (<http://www.dso.iastate.edu/ja/academic/misconduct.html>), not that I expect it to be a problem. Also, an unexcused absence will earn a grade of zero. If you know you will miss an exam, tell me beforehand so that I can make arrangements, but note that I will provide a make-up exam only under exceptional circumstances. We may hold study sessions for you to ask questions and discuss issues prior to exams.

Each exam will cover lecture and journal discussion material. The final exam is comprehensive but will emphasize the latter portion of the course subsequent to the second midterm exam.

I will assign course grades based on scores earned on these 6 requirements. Promptness, attendance, and participation by students will figure importantly in determining grades as well. Nonetheless, although I've never done so, I might use a curve to help assign grades, which will follow a plus/minus grading system.

Lab Course Requirements:

- 1) Lab exam #1 (field methods) 7 October 25%

- 2) Lab exam #2 (amphibians) 4 November 25%
- 3) Lab exam #3 (reptiles) 9 December 25%
- 4) Participation Entire semester 25%

The first lab exam will be similar in structure to a lecture exam and mainly will emphasize field methods and field observations. The other two lab exams will consist of short answer questions, primarily focused on identification of structures as well as specimen identification and classification. These exams will heavily emphasize regional (i.e., native Iowa) herps. Again, cheating will not be tolerated and absences must be excused, as described above. TA's will assign course grades based on the above 4 requirements.

ISU strives to maintain campus as a place of scholarship for faculty, staff, and students that is free of all forms of prohibited discrimination and harassment based upon race, ethnicity, sex (including sexual assault), pregnancy, color, religion, national origin, physical or mental disability, age, marital status, sexual orientation, gender identity, genetic information, or status as a U.S. veteran. Any student who has concerns about such behavior should contact Dr. Mitchell, Student Assistance at 515-294-1020 or email dso-sas@iastate.edu, or the Office of Equal Opportunity and Compliance at 515-294-7612.

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Class Schedule

DATE	TOPIC	READING
8/25	Introductions, course expectations, what are herps?	pp. 3–16
8/27	Origins and “basics” of major herp groups	pp. 21–40
9/1	LABOR DAY	
9/3	Conservation	pp. 597–634
9/8	Biogeography	pp. 174–228
9/10	Hydric Biology	pp. 231–246
9/15	Guest lecture by Shannon McKinney	
9/17	Journal discussion #1	TBD
9/22	Thermal biology	pp. 246–264
9/24	Overwintering	pp. 264–266
9/29	Physiology	pp. 269–300
10/1	LECTURE EXAM #1	
10/6	Modes of reproduction (amphibians)	pp. 307–318
10/8	Modes of reproduction (reptiles)	pp. 331–332, 337–340, 346–352
10/13	Mating systems (amphibians)	pp. 301, 303– 307, 495–529
10/15	Mating systems (reptiles)	pp. 335–337, 345–346, 495–529
10/20	Sex determination	pp. 301–302, 332–335
10/22	Guest Lecture by Bob Litterman	
10/27	Development/early life-history stages (amphibians)	pp. 320–329
10/29	Development/early life-history stages (reptiles)	pp. 340–345
11/3	Journal discussion #2	TBD
11/5	LECTURE EXAM #2	
11/10	Feeding	pp. 385–408, 426–427
11/12	Foraging	pp. 409–425, 530–546
11/17	Antipredator mechanisms (PAPER DUE)	pp. 550–566
11/19	Journal discussion #3	
11/24	THANKSGIVING	
11/26	THANKSGIVING	
12/1	Locomotion and movement (amphibians)	pp. 353–384, 431–460
12/3	Locomotion and movement (reptiles)	pp. 353–384, 431–460
12/8	Guest Lecture by Eric Gangloff	
12/10	Communication	pp. 461–494
12/15	FINAL EXAM (9:45-11:45 AM)	

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Lab Schedule

- 8/26 Field trip to Chichaqua Wildlife Refuge (general herping)
- 9/2 Field trip to Ledges (DNR research, coverboards, snake hibernaculum)
- 9/9 Field trip to Ada Hayden (aquatic trapping, radiotelemetry I)
- 9/16 Blank Park Zoo with Shannon McKinney
- 9/23 Field trip to Winterset to see timber rattlesnakes, etc.
- 9/30 Backup "inclement weather" date for Winterset fieldtrip OR Chichaqua II
- 10/7 LAB EXAM #1
- 10/14 Amphibian Lab I
- 10/21 Amphibian Lab II
- 10/28 Amphibian Lab III
- 11/4 LAB EXAM #2
- 11/11 Reptile Lab I
- 11/18 Reptile Lab II
- 11/25 THANKSGIVING
- 12/2 Reptile Lab III
- 12/9 LAB EXAM #3