BIOSC 1180: ECOLOGY OF AMPHIBIANS AND REPTILES (3 cr.)
PYMATUNING LABORATORY OF ECOLOGY

Instructor: Dr. Kurt J. Regester
Clarion University

Meeting Location and Time: Lecture: MTWR 8:30-12:00; Field: MTWR 12:00-5:00

Course Description: An exploration of the ecology, evolution, natural history, and management of amphibians and reptiles. Lectures will focus on “what are amphibians and reptiles?”, “how do amphibians and reptiles work?”, and “what do amphibians and reptiles do?” Laboratory and field trips include identification and natural history of Pennsylvania species, and group projects on hellbender disease ecology, estimating biomass and nutrients associated with amphibian assemblages, and terrestrial and aquatic sampling techniques.


Equipment: Hip waders and wading shoes recommended for personal use but can be provided.

Attendance: Attendance is essential. If you miss a class you are responsible for obtaining lectures notes, handouts or assignments you may have missed. If you miss a class for a legitimate reason, you must notify the instructor within 24 hours of the absence and provide valid documentation of the absence as defined by university policy. In doing so, reasonable and fair accommodations will be discussed on an individual basis. No make-ups will be given for field trips or after materials have been graded and returned.

Grading Scale: A maximum of 600 points can be earned and are distributed among the following categories.

<table>
<thead>
<tr>
<th>Component</th>
<th>Points</th>
<th>Grade</th>
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</thead>
<tbody>
<tr>
<td>Exam 1</td>
<td>100</td>
<td>A</td>
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<tr>
<td>Exam 2</td>
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<td>B</td>
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<tr>
<td>Practical Exam 1</td>
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<td>C</td>
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<td>Practical Exam 2</td>
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<td>D</td>
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<tr>
<td>Project proposal presentation</td>
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<td>F</td>
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<tr>
<td>Project final presentation</td>
<td>75</td>
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<tr>
<td>Quizzes</td>
<td>50</td>
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<tr>
<td>Participation</td>
<td>50</td>
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I. Examinations:
Exams will be given at announced times. Exams will not be given after the first exam is completed, so arrive on time. Format will include a variety of multiple choice, short answer, and essay questions. Graphs, flowcharts, and other figures are strongly encouraged for maximum credit.

II. Labs:
During laboratory meetings, students will be given information on the natural history of PA amphibians and reptiles, with an emphasis on local species. Students will be expected to correctly identify representatives of taxonomic groups during practical exams. Be prepared to identify animals to scientific name. Museum specimens will be provided for study and should be handled with care. Guidelines for handling museum specimens will be reviewed in lab and must be adhered to throughout the course. Please come prepared for current weather and field conditions; this may include bringing boots, parkas, additional clothing, a backpack, drinking water, and snacks. Field trips are required and may be rescheduled due...
to unfavorable weather conditions. Departure times for field trips are firm; if you are late, you may be left behind. Missed labs, field trips, and practical exams cannot be made up.

V. Disabled Student Services:

If you have specific needs that affect your ability to perform in this class, please inform me at the conclusion of the first class meeting. If you require assistance or accommodations for testing, please notify me at the conclusion of the first class meeting.

VI. Other Information:

The syllabus is a general outline for the course and any deviations will be announced. Students are responsible for educating themselves about these standards and policies.

Cheating/plagiarism will not be tolerated. Students enrolled in courses at PLE are expected to abide by the academic integrity policies of both the University of Pittsburgh and, where applicable, the other institution through which they enrolled. Students suspected of violating either or both institutions’ policies will be required to participate in the procedural process outlined therein. A minimum sanction of a zero score for the quiz or exam will be imposed.

Academic integrity policies can be found at the links below:
University of Pittsburgh: www.cfo.pitt.edu/policies/policy/02/02-03-02.html
Chatham: https://www.chatham.edu/academics/catalog/2017-2018/HonorCode/
Edinboro: http://www.edinboro.edu/directory/offices-services/social-equity/common-course-policies.html
IUP: https://www.iup.edu/graduatestudies/catalog/university-policies/academic-policies/academic-integrity-policy-and-procedures/
Slippery Rock: http://catalog.sru.edu/content.php?catoid=22&navoid=437#acad_inte

If you have a disability for which you are or may be requesting an accommodation, you are encouraged to contact both your instructor and the PLE Program Administrator, 814-273-0416 as early as possible to determine reasonable accommodations for this course.
# TENTATIVE SCHEDULE

<table>
<thead>
<tr>
<th>Week</th>
<th>Textbook Reading</th>
<th>Supplemental Reading</th>
<th>Discussion</th>
<th>Natural History</th>
<th>Identification</th>
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<tbody>
<tr>
<td>M 1</td>
<td>Introduction: pp. 1-11</td>
<td></td>
<td>Introduction to course</td>
<td>Introduction: terminology in keys</td>
<td>Orders and families</td>
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<tr>
<td>T 1</td>
<td>Pough Ch. 1 Salamanders: pp. 37-124</td>
<td></td>
<td>Why Study Herpetology</td>
<td>Order Caudata</td>
<td>PA Salamanders</td>
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<tr>
<td>W 1</td>
<td>Pough Ch. 2 Salamanders: pp. 37-124</td>
<td>Phylogenetic Systematics and the Origins of Amphibians and Reptiles</td>
<td>Order Caudata</td>
<td>PA Salamanders</td>
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<tr>
<td>R 1</td>
<td>Pough Ch. 5 Frogs and toads: pp. 124-186</td>
<td>The Biogeography of Amphibians and Reptiles</td>
<td>Order Anura</td>
<td>PA Frogs and toads</td>
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<tr>
<td>F 1</td>
<td>Pough Ch. 6 Frogs and toads: pp. 124-186</td>
<td>Water and Temperature Relations</td>
<td>Order Anura</td>
<td>PA Frogs and toads</td>
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<td>M 2</td>
<td>Pough Ch. 7 Turtles: pp. 187-246</td>
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<td>Energetics and Performance</td>
<td>Order Testudines</td>
<td>PA Turtles</td>
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<td>T 2</td>
<td>Pough Ch. 8 Lizards: pp. 246-264</td>
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<td>Reproduction and Life Histories of Amphibians</td>
<td>Order Squamata</td>
<td>PA Lizards</td>
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<tr>
<td>W 2</td>
<td>Pough Ch. 9 Snakes: pp. 265-359</td>
<td>Reproduction and Life Histories of Reptiles</td>
<td>Order Squamata</td>
<td>PA Snakes</td>
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<td>R 2</td>
<td>Pough Ch. 12 Snakes: pp. 265-359</td>
<td>Spatial Ecology</td>
<td>Order Squamata</td>
<td>PA Snakes</td>
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<td>F 2</td>
<td>Pough Ch. 13 Primary literature selection</td>
<td>Communication</td>
<td>Non-native taxa</td>
<td>Non-native taxa</td>
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<tr>
<td>M 3</td>
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<tr>
<td>T 3</td>
<td>Pough Ch. 14 Primary literature selection</td>
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<td>Mating Systems and Sexual Selection</td>
<td>Internal and external anatomy</td>
<td>Non-native taxa</td>
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<tr>
<td>W 3</td>
<td>Pough Ch. 15 Primary literature selection</td>
<td>Diets, Foraging, and Interactions with Parasites and Predators</td>
<td>Internal and external anatomy</td>
<td>Non-native taxa</td>
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<td>R 3</td>
<td>Pough Ch. 16 Primary literature selection</td>
<td>Populations and Species Assemblages</td>
<td>Aquatic salamander diet analysis</td>
<td>Non-native taxa</td>
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<td>F 3</td>
<td>Pough Ch. 17 Primary literature selection</td>
<td>Conservation and the Future of Amphibians and Reptiles</td>
<td>Terrestrial salamander diet analysis</td>
<td>Non-native taxa</td>
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<tr>
<td>Date</td>
<td>Life in Cold Blood Video</td>
<td>Independent Project</td>
<td>Field Topic / Guest Speaker</td>
<td>Exams</td>
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<tr>
<td>M 1</td>
<td>Life in Cold Blood (intro)</td>
<td>Conduct literature review</td>
<td>Basics of identification, mark recapture methods</td>
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<td>T 1</td>
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<td>Develop questions</td>
<td>Stream sampling: hellbender ecology</td>
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<tr>
<td>W 1</td>
<td>Land Invaders (amphibians)</td>
<td>Refine questions</td>
<td>Stream sampling: Ritchie Run assessment</td>
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<tr>
<td>R 1</td>
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<td>Design and logistics</td>
<td>Stream sampling: Ritchie Run assessment</td>
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<tr>
<td>F 1</td>
<td>Armoured Giants (turtles and crocs)</td>
<td>Proposal group discussion</td>
<td>Erie National Wildlife Refuge</td>
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<td>M 2</td>
<td>Dragons of the Dry (lizards)</td>
<td>Proposal development</td>
<td>Terrestrial sampling: juvenile and adult populations</td>
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<td>T 2</td>
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<td>Proposal presentation</td>
<td>DCNR and Jennings Env Center</td>
<td>Amphibian Practical 1</td>
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<tr>
<td>W 2</td>
<td>Sophisticated Serpents (snakes)</td>
<td>Data collection</td>
<td>Wetland sampling: larval populations</td>
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<tr>
<td>R 2</td>
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<td>Data collection</td>
<td>Assemblage assessment: biomass and nutrients</td>
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<tr>
<td>F 2</td>
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<td>Data collection</td>
<td>Assemblage assessment: biomass and nutrients</td>
<td>Exam 1</td>
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<td>M 3</td>
<td>French Creek float trip</td>
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<tr>
<td>T 3</td>
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<td>Analyses</td>
<td>Aquatic sampling: turtles</td>
<td>Reptile Practical 2</td>
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<tr>
<td>W 3</td>
<td>Cane Toads: An Unnatural History</td>
<td>Analyses</td>
<td>Allegheny College</td>
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<td>R 3</td>
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<td>Presentation development</td>
<td>Pitt Lab: natural and artificial experiment design</td>
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<tr>
<td>F 3</td>
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<td>Final presentation</td>
<td>Final presentation</td>
<td>Exam 2</td>
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