**BIO 576/676 – Herpetology**

**Syllabus and Course Policies – 2018**

**Lecture: MW 1:25-2:15 – PLAS 245**

**Lab: Tuesday or Thursday, 12:00-1:50 – Temple 240**

**Instructors:**

|  |  |
| --- | --- |
| **Lecture** | **Lab** |
| Dr. Brian Greene | Alex Meinders |
| Temple 275, 836-6379 | Temple 110 |
| [BrianGreene@missouristate.edu](mailto:BrianGreene@missouristate.edu) | [Meinders081@live.missouristate.edu](mailto:Meinders081@live.missouristate.edu) |
| M (11-12), T (1-2), W (3-4), F (11-12, 1:15-3), or by appt. |  |

**Course Materials:**

*Lecture Text:*

Pough, F.H., R.M Andrews, M.L. Crump, A.H. Savitsky, K.D. Wells, and M.C. Brandley. 2016. Herpetology (4th Edition), Sinauer Associates, Inc. Sunderland, MA. ISBN 978-1-60535-233-6.

*Lab resource:*

Atlas of Missouri Amphibians and Reptiles for 2013 (atlas.moherp.org/pubs/atlas13/pdf)

**Grading Information**

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| --- | --- | --- | --- | --- |
| **Point Distribution (Undergraduates)** | | **Grade Calculations** | | |
| Graded Item | Points | Point Range | % | Grade |
| Lecture Exams – 2 @ 100 points | 200 | 581-650 | 89.5-100 | A |
| Final Exam – 150 points | 150 | 517-584 | 79.5-89.4 | B |
| Lab Practicals – 3@ 75 points | 225 | 451-516 | 69.5-79.4 | C |
| Field Trip Participation – 75 points | 75 | 387-451 | 59.5-69.4 | D |
| Total | 650 | <387 | <59.5 | F |

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| **Point Distribution (Graduate Students)** | | **Grade Calculations** | | |
| Graded Item | Points | Point Range | % | Grade |
| Lecture Exams – 2 @ 100 points | 200 | 626-700 | 89.5-100 | A |
| Final Exam – 150 points | 150 | 556-625 | 79.5-89.4 | B |
| Lab Practicals – 3@ 75 points | 225 | 486-555 | 69.5-79.4 | C |
| Field Trip Participation – 75 points | 75 | 416-485 | 59.5-69.4 | D |
| ADW Species Account | 50 | <416 | <59.5 | F |
| Total | 700 |  |  |  |

**Course Description:** BIO 576 provides a broad introduction to amphibian and reptile biology. Lectures summarize the evolutionary history, physiology, biogeography, ecology, behavior, and conservation of herpetofauna. The laboratory emphasizes the identification of Missouri taxa. One field trip is required.

**Course Policies**

**BIO 676 Requirements:** MSU is nowrequired to have separate requirements for undergraduate and graduate students in cross-listed classes. Graduate students enrolled in BIO 676 will be required to complete a species account for an amphibian or reptile species through the Animal Diversity Web online resource managed by the University of Michigan’s Museum of Zoology. Each Animal Diversity Web species account is an online educational resource summarizing the primary literature for a particular animal species. Creating such an account enhances graduate student writing skills and knowledge of scientific literature. The species account component of the class changes the grading process for graduate students by adding 50 points to the points possible. Additional information about this requirement will be provided in a separate document.

**Lecture Exams:** The lecture points are determined by two exams and a final. The first two lecture exams are non-comprehensive, worth 100 points each, and will consist of a short answer/essay format. The final exam is worth 150 points including 50 points derived from comprehensive material. Makeups for missed lab practicals and lecture exams will be granted in situations where there is: (1) an emergency (illness, accident, etc.) that explains your absence; or (2) an absence due to a known conflict that is cleared in advance with your instructor.

**Laboratory Policy:** The lab portion of the course will focus on identification of preserved specimens. Each lab will cover representative taxa from major families of amphibians and reptiles and will emphasize the Missouri herpetofauna. A handout will be provided for each lab listing the taxa to be examined. For each Missouri species examined you are responsible for identification, taxonomy (to species designation), common name, vocalization (for anurans), and approximate state distribution. For non-Missouri taxa you should know general distribution, common name, and taxonomy through family only.

**Grading and Attendance:** Grades will be based on the percentages given on the cover page of this syllabus. I do not intend to use the ± grading system. Attendance will not be monitored but is obviously encouraged. Weekly lab handouts will be posted on blackboard. In the event that you are not able to attend a particular lab, you are responsible for learning the specimens listed for that week on your own time.

**Field Trips:** Herpetology has a field component. Everyone is required to attend one field trip during the semester, although you may participate in as many as you like. Field trips are conducted on weekends and may involve either a Saturday or an entire weekend (Friday afternoon to Sunday afternoon). Because of the seasonal nature of amphibian and reptile activity, these trips need to occur after mid-semester (exact dates will be determined by mid to late February). The trip to Mingo National Wildlife Refuge will involve an entire weekend in late April. Both other trips will occur on a Saturday. Transportation will be provided for all trips.

* MSU Bull Shoals Field Station (east of Branson) – Ozarks fauna
* Mingo National Wildlife Refuge (SE Missouri near Poplar Bluff) – emphasizes fauna of the Mississippi Lowlands characteristic of the SE United States.
* Snow Family Farm – Unmanaged Ozarks landscape with mixture of pastures, forest, and ponds

**University Policies**

**Disability Accommodation:** If you are a student with a disability and anticipate barriers related to this course, it is important to request accommodations and establish an accommodation plan with the University. Please contact the Disability Resource Center (DRC) (<https://www.missouristate.edu/disability/>), Meyer Library, Suite 111, 417-836-4192, to initiate the process to establish your accommodation plan. The DRC will work with you to establish your accommodation plan, or it may refer you to other appropriate resources based on the nature of your disability. In order to prepare an accommodation plan, the University usually requires that students provide documentation relating to their disability.  Please be prepared to provide such documentation if requested. Once a University accommodation plan is established, you may notify the class instructor of approved accommodations.  If you wish to utilize your accommodation plan, it is suggested that you do so in a timely manner, preferably within the first two weeks of class. Early notification to the instructor allows for full benefit of the accommodations identified in the plan. Instructors will not receive the accommodation plan until you provide that plan, and are not required to apply accommodations retroactively.

**Non-discrimination Policies:** Missouri State University is an equal opportunity/affirmative action institution, and maintains a grievance procedure available to any person who believes he or she has been discriminated against. At all times, it is your right to address inquiries or concerns about possible discrimination to the [Office for Equity and Diversity](http://www.missouristate.edu/equity/), Park Central Office Building, 117 Park Central Square, Suite 111, (417) 836-4252. Other types of concerns (i.e., concerns of an academic nature) should be discussed directly with your instructor and can also be brought to the attention of your instructor’s Department Head.   Please visit the OED website at [www.missouristate.edu/equity](http://www.missouristate.edu/equity/)/.

**Academic Integrity:** Missouri State University is a community of scholars committed to developing educated persons who accept the responsibility to practice personal and academic integrity.  You are responsible for knowing and following the university’s Student Academic Integrity Policies and Procedures, available at [www.missouristate.edu/policy/academicintegritystudents.htm](http://www.missouristate.edu/policy/academicintegritystudents.htm). You are also responsible for understanding and following any additional academic integrity policies specific to this class (as outlined by the instructor). Any student participating in any form of academic dishonesty will be subject to sanctions as described in this policy.  If you are accused of violating this policy and are in the appeals process, you should continue participating in the class. 

**Cell Phone Policy:** As a member of the learning community, each student has a responsibility to other students who are members of the community.  When cell phones or pagers ring and students respond in class or leave class to respond, it disrupts the class.  Therefore, the [Office of the Provost](http://www.missouristate.edu/provost/) prohibits the use by students of cell phones, pagers, PDAs, or similar communication devices during scheduled classes.  All such devices must be turned off or put in a silent (vibrate) mode and ordinarily should not be taken out during class.  Given the fact that these same communication devices are an integral part of the University’s emergency notification system, an exception to this policy would occur when numerous devices activate simultaneously.  When this occurs, students may consult their devices to determine if a university emergency exists.  If that is not the case, the devices should be immediately returned to silent mode and put away.  Other exceptions to this policy may be granted at the discretion of the instructor.

**Dropping a class:** It is your responsibility to understand the University’s procedure for dropping a class. If you stop attending this class but do not follow proper procedure for dropping the class, you will receive a failing grade and will also be financially obligated to pay for the class. For information about dropping a class or withdrawing from the university, contact the [Office of the Registrar](http://www.missouristate.edu/registrar/) at 836-5520. If you wish to drop all of your classes (university withdrawal), contact the Registration Center, Carrington 320.

**Emergency Response Plan:** Lecture policy (PLAS 245): for a building emergency, leave the building from the closest exit and proceed north to McDonald Arena or Meyer Library. For severe weather events, we will exit the room and proceed the racquetball courts on the first floor until told that the threat has passed. Lab policy (TEM 240): building emergency, exit building and proceed to Meyer Library entrance; extreme weather event, move to interior classroom. Students with disabilities impacting mobility must discuss their needs with their professors and Disability Services. If you need special arrangements in case of emergency situations, please make an appointment with me as soon as possible so that I am aware of your situation.  For more information, go to <http://www.missouristate.edu/safetran/51597.htm> and <http://www.missouristate.edu/safetran/erp.htm>

**Lecture Schedule**

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| **Week** | **Date** | **Topic** | **Text pages** |
| 1 | 15 January | **No Class - Martin Luther King Holiday** |  |
| 17 January | Introduction and systematics concepts | Chapter1&2 |
| 2 | 22 January | Evolutionary history of amphibians and reptiles |  |
| 24 January | Lissamphibian diversity – caecilians and salamanders | Chapter 3 |
| 3 | 29 January | Lissamphibian diversity – frogs |  |
| 31 January | Reptile diversity – turtles and crocodilians | Chapter 4 |
| 4 | 5 February | Reptile diversity – lepidosaurs |  |
| 7 February | Biogeography essentials | Chapter 5 |
| 5 | 12 February | Phylogeography applications in herpetology |  |
| 14 February | **Exam I** |  |
| 6 | 19 February | **No class – President’s Day Holiday** |  |
| 21 February | Water balance and thermoregulation | Chapter 6 |
| 7 | 26 February | Water balance |  |
| 28 February | Thermoregulation |  |
| 8 | 5 March | Energetics and performance | Chapter 7 |
| 7 March |  |  |
| 9 | 12 March | **Spring Break** |  |
| 14 March | **Spring Break** |  |
| 10 | 19 March | Reproduction and life history of amphibians | Chapter 8 |
| 21 March | Reproduction and life history of reptiles | Chapter 9 |
| 11 | 26 March | Locomotion | Chapter 10 |
| 28 March | Feeding | Chapter 11 |
| 12 | 2 April | **Exam II** |  |
| 4 April | Spatial ecology | Chapter 12 |
| 13 | 9 April |  |  |
| 11April | Communication | Chapter 13 |
| 14 | 16 April | Mating systems | Chapter 14 |
| 18 April | Mating systems |  |
| 15 | 23 April | Predator-prey interactions | Chapter 15 |
| 25 April |  |  |
| 16 | 30 April | Population and community ecology | Chapter 16 |
| 2 May |  |  |
| 17 | 7 May | Conservation | Chapter 17 |
| 9 May | Conservation |  |
|  | 14 May (Mon) | **Final Exam - 1:15-3:15, PLAS 245** |  |

**BIO 576 Laboratory Schedule**

**Spring 2018**

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| --- | --- |
| **Date** | **Taxa** |
| 16, 18 January | Urodela: Sirenidae, Cryptobranchidae, Salamandridae, Proteidae, Amphiumidae, Dicamptodontidae, Rhyacotritonidae; Gymnophiona (various examples) |
| 23, 25 January | Urodela: Plethodontidae, Ambystomatidae |
| 30, 1 February | Anura: Ascaphidae, Pipidae, Rhinophrynidae, Leptodactylidae, Dendrobatidae, Centrolenidae, Bombinatoridae |
| 6, 8 February | Anura: Hylidae, Microhylidae, Ranidae |
| 13, 15 February | Anura: Bufonidae, Pelobatidae |
| 20, 22 February | **Practical Exam 1** |
| 27, 1 March | Chelonia: Emydidae, Kinosternidae, Chelydridae, Trionychidae, Bataguridae, Cheloniidae |
| 6, 8 March | Squamata: Amphisbaenia and Lacertilia: Polychrotidae, Anguidae, Scincidae, Gekkonidae, |
| 13, 15 March | **Spring Break** |
| 20, 22 March | Squamata: Teiidae, Chamaeleonidae, Cordylidae, Xantusidae |
| 27, 29 March | **No labs – Spring Holiday** |
| 3, 5 April | Lacertilia: Iguanidae, Crotaphytidae, Varanidae, Phrynosomatidae |
| 10, 12 April | **Practical Exam 2** |
| 17, 19 April | Squamata: Colubridae; skulls |
| 24, 26 April | Squamata: Colubridae |
| 1, 3 May | Squamata: Viperidae, Elapidae, Boidae |
| 8, 10 May | **Practical Exam 3** |