

# Mammalogy (IB 462/NRES 442) Fall 2019

**Instructor:** Dr. Bob Schooley  
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**Office Hours:** By appointment

**TA:** Casey Wagnon  
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**Lectures:** Tuesday & Thursday, 11:00 AM - 12:15 PM, 2083 Natural History Building

**Labs:** Tuesday, 2:00-4:50 PM, 4072 Natural History Building

## Course Description

The course covers major areas of Mammalogy in some depth including evolution, diversity and classification, structure and function, ecology, behavior, and conservation. Lab time will provide students with a hands-on understanding of mammalian characteristics, evolutionary relationships, species identification, and natural history. Field trips will expose students to sampling techniques for mammals.

In all settings, questions and opinions from students will be genuinely welcomed.

## Learning Objectives

By the end of the course, students should be able to do the following:

- Explain evolutionary trends and characteristics of mammals.
- Outline the physiological, behavioral, and ecological adaptations that have allowed mammals to inhabit diverse ecosystems.
- Explain how intraspecific and interspecific interactions shape the lives of mammals.
- Describe the evolutionary relationships of mammal orders and selected families.
- Identify mammal species that occur in Illinois.
- Apply invasive and noninvasive sampling methods to survey for mammals.
- Work effectively as part of a small team to critically analyze conservation issues for mammals.
- Create and deliver a well-organized oral presentation on mammal conservation.
- Realize mammals are the coolest vertebrates on earth.

## Course Web Site

Course materials including lecture presentations will be posted on the Compass course site. Lectures typically will be posted the day before class but may have some information omitted (e.g., when we will cover the information through in-class discussions).



## Readings

There is one required book for the course:

**Reid, F. A. 2006. A Field Guide to Mammals of North America. 4<sup>th</sup> edition. Houghton Mifflin.**

Additional readings may be posted as PDFs on the course web site.

An optional textbook is placed on reserve at the Funk ACES library:

Vaughan, T. A., J. M. Ryan, and N. J. Czaplewski. 2015. Mammalogy. 6<sup>th</sup> edition. Jones & Bartlett Learning.

Other relevant texts (not required):

1) Feldhamer, G. A. et al. 2015. Mammalogy: Adaptation, Diversity, Ecology. 4<sup>th</sup> edition. John Hopkins.

2) Hofmann, J. E. 2013. Field Manual of Illinois Mammals. Illinois Natural History Survey.

## Lecture Exams

There will be two exams during the semester plus a semi-comprehensive final exam. Each exam will be worth 100 points. See the Lecture and Lab Schedule below for dates.

## Lab Quizzes and Practical Exams

There will be 4 lab quizzes (15 pts each) and 2 lab practical exams (75 pts each). These will not be cumulative. Quizzes will take place at the beginning of the lab period. There will be a review session prior to each practical exam. See the Lecture and Lab Schedule below for dates.

## Lab Policy

Use of smart phones is prohibited during the introductory presentation at the beginning of labs and for the first 30 minutes of self-paced time intended for working through the stations. After that, phones can be used to take photos of specimens to aid in studying or to research material relevant to the lab topics.

## Field Trips

Two required, half-day field trips are scheduled for Saturday, September 21 (afternoon) and Sunday, September 22 (morning). We will set live traps and camera traps on Saturday, and then check the live traps on Sunday. Activities will take place locally at the UIUC Phillips Tract Natural Area. Students will also produce a summary based on data collected with the camera traps.

There is an optional field trip to the Field Museum of Natural History in Chicago on Saturday, November 2 (full day). We will be given a private tour of the mammal collection including specimens not on public display.

## Conservation Critiques

Students will work in small groups to research and critically evaluate a conservation issue for a mammal species or mammal group. The results of these conservation critiques will then be presented to the class orally with the aid of a PowerPoint presentation. More details on this activity will be provided separately.



## Attendance

I expect students to attend all lectures and labs. There will be no make-ups for lecture exams, lab quizzes, or lab practical exams other than for documented illnesses or other reasons approved beforehand by the course instructor.

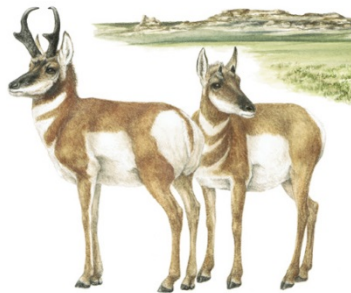
## Grading

Lecture Exam 1	100 pts
Lecture Exam 2	100 pts
Lecture Final Exam	100 pts
Lab Practical Exam 1	75 pts
Lab Practical Exam 2	75 pts
Lab Quiz 1	15 pts
Lab Quiz 2	15 pts
Lab Quiz 3	15 pts
Lab Quiz 4	15 pts
Conservation Critiques	80 pts
Field Trip & Camera Trap Summary	40 pts

**TOTAL 630 pts**

The final grade will be based on a total of 620 points. Approximate letter grades will be based on the following scale:

A+	97 – 100%	D+	67 – 69.9%
A	93 – 96.9%	D	63 – 66.9%
A-	90 – 92.9%	D-	60 – 62.9%
B+	87 – 89.9%	F	<59.9%
B	83 – 86.9%		
B-	80 – 82.9%		
C+	77 – 79.9%		
C	73 – 76.9%		
C-	70 – 72.9%		



## Tentative Lecture and Lab Schedule

DATE	LECTURE	LAB
Aug 27	Course Overview; Introduction to Mammal Diversity	Mammal Characteristics I
Aug 29	Mammalian Origins & Characteristics I	
Sep 3	Mammalian Origins & Characteristics II/(Conservation critique)	Mammal Characteristics II
Sep 5	Environmental adaptations I	
Sep 10	Environmental adaptations II/(Conservation critique)	<b>Quiz 1</b> ; Monotremata and Marsupials
Sep 12	Feeding modes	
Sep 17	Trophic ecology/(Conservation critique)	Afrotheria, Cingulata, Pilosa
Sep 19	Reproduction	
<b>Weekend Field Trips: Sep 21-22</b>		
Sep 24	Life histories /(Conservation critique)	<b>Quiz 2</b> ; Primates, Scandentia, Dermoptera
Sep 26	Communication	
Oct 1	Lagomorpha & Rodentia/(Conservation critique)	Lagomorpha & Rodentia I
Oct 3	<b>Exam 1</b>	
Oct 8	Mating systems /Conservation critique 1	<i>Review Session</i>
Oct 10	Sociality	
Oct 15	Locomotion /Conservation critique 2	<b>Lab Practical 1</b>
Oct 17	Dispersal	
Oct 22	Population cycles/Conservation critique 3	Rodentia II
Oct 24	Interspecific interactions	
Oct 29	Interspecific Interactions/Insectivores/Conservation critique 4	Erinaceomorpha, Soricomorpha
Oct 31	Echolocation	
<b>Field Trip to Field Museum, Chicago: Nov 2</b>		
Nov 5	Chiroptera/Conservation critique 5	<b>Quiz 3</b> ; Chiroptera
Nov 7	<b>Exam 2</b>	
Nov 12	Carnivora/Conservation critique 6	Carnivora, Pholidota
Nov 14	Zoogeography	
Nov 19	Ungulates and cetaceans/Conservation critique 7	<b>Quiz 4</b> ; Perissodactyla, Artiodactyla, Cetacea
Nov 21	Parasites & Disease (Dr. Nohra Mateus-Pinilla)	
Nov 26	<b>Thanksgiving Break</b>	No lab
Nov 28	<b>Thanksgiving Break</b>	
Dec 3	Domestication/ Conservation critique 8	<i>Review Session</i>
Dec 5	Conservation	
Dec 10	No class	<b>Lab Practical 2</b>

**Final Exam: Friday, Dec 13, 9:00 am.**

### Schedule for OPTIONAL READINGS in Vaughan Text

DATE	Lecture Topic	Optional Reading
Aug 27	Course Overview; Introduction to Mammal Diversity	Vaughan. Chapters 1 and 2.
Aug 29	Mammalian Origins & Characteristics	
Sep 3	Mammalian Origins & Characteristics	Vaughan. Chapters 3 and 21.
Sep 5	Environmental adaptations I	
Sep 10	Environmental adaptations II	Vaughan. Chapters 21 and 24 (pp. 529-534).
Sep 12	Feeding modes	
Sep 17	Trophic ecology	Vaughan. Chapter 23 (pp. 510-519).
Sep 19	Reproduction	Vaughan. Chapter 20.
Sep 24	Life histories	Vaughan. Chapter 24 (pp. 536-546).
Sep 26	Communication	
Oct 1	Lagomorpha & Rodentia	Vaughan. Chapter 13.
Oct 3		
Oct 8	Mating systems	Vaughan. Chapter 24 (pp. 546-570).
Oct 10	Sociality	
Oct 15	Locomotion	Vaughan. Chapter 21 (433-436).
Oct 17	Dispersal	Vaughan. Chapter 23 (pp. 484-488).
Oct 22	Population cycles	Vaughan. Chapter 23 (pp. 490-499).
Oct 24	Interspecific interactions	Vaughan. Chapter 23 (pp. 502-510).
Oct 29	Interspecific Interactions/Insectivores	Vaughan. Chapter 14.
Oct 31	Echolocation	Vaughan. Chapter 22.
Nov 5	Chiroptera	Vaughan. Chapter 15.
Nov 7		
Nov 12	Carnivora	Vaughan. Chapter 16.
Nov 14	Zoogeography	Vaughan. Chapter 25.
Nov 19	Ungulates and cetaceans	Vaughan. Chapters 18 and 19.
Nov 21	Parasites & Disease	Vaughan. Chapters 28.
Nov 26	<b>Thanksgiving Break</b>	
Nov 28	<b>Thanksgiving Break</b>	
Dec 3	Domestication	Vaughan. Chapter 27.
Dec 5	Conservation	Vaughan. Chapter 26.

### **Academic Integrity**

The University of Illinois at Urbana-Champaign *Student Code* should also be considered as a part of this syllabus. Students should pay particular attention to Article 1, Part 4: Academic Integrity. Read the Code at the following URL: <http://studentcode.illinois.edu/> .

Academic dishonesty may result in a failing grade. Every student is expected to review and abide by the Academic Integrity Policy: <http://studentcode.illinois.edu/>. Ignorance is not an excuse for any academic dishonesty. It is your responsibility to read this policy to avoid any misunderstanding. Do not hesitate to ask the instructor(s) if you are ever in doubt about what constitutes plagiarism, cheating, or any other breach of academic integrity.

### **Students with Disabilities**

To obtain disability-related academic adjustments and/or auxiliary aids, students with disabilities must contact the course instructor as soon as possible. To ensure that disability-related concerns are properly addressed from the beginning, students with disabilities who require assistance to participate in this class should contact Disability Resources and Educational Services (DRES) and see the instructor as soon as possible. If you need accommodations for any sort of disability, please speak to me after class, or make an appointment to see me, or see me during my office hours. DRES provides students with academic accommodations, access, and support services. To contact DRES you may visit 1207 S. Oak St., Champaign, call 333-4603 (V/TDD), or e-mail a message to [disability@uiuc.edu](mailto:disability@uiuc.edu). <http://www.disability.illinois.edu/>.

### **Emergency Response Recommendations**

Emergency response recommendations can be found at the following website: <http://police.illinois.edu/emergency/>. I encourage you to review this website and the campus building floor plans website within the first 10 days of class. <http://police.illinois.edu/emergency/floorplans/> .

### **Family Educational Rights and Privacy Act (FERPA)**

Any student who has suppressed their directory information pursuant to *Family Educational Rights and Privacy Act* (FERPA) should self-identify to the instructor to ensure protection of the privacy of their attendance in this course. See <http://registrar.illinois.edu/ferpa> for more information on FERPA.