

## Biology 378 – Mammalogy Summer 2017

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Office hours: What office?

Kemp Field Station, Woodruff, WI

Online

Required Books: Field notebook (Rite-in-the-Rain) and waterproof pen (all the best field biologists use Microns)

Recommended Book: Mammals of the Great Lakes Region. The recent edition (available on Kindle [cheapest option] and Adobe e-book as well) has the most up-to-date taxonomy and useful information in the back of the book. I will bring some resource books with me.

### Course Description and Objectives

I have been teaching 3 sections of mammalogy since 2001 and it generally closes in the first few days leaving me with a class full of seniors. Don't get me wrong, I like seniors, but they tend to leave shortly after I get to know them. Summer mammalogy offers the opportunity for a broader variety of students to register for the course, and it's generally more memorable than the traditional fall course (owing to the potential for tornadoes and run ins with bears and such). This is a format up at Kemp Field Station for the 8<sup>th</sup> time and I hope to get constructive feedback from you for future offerings of this course. Previously I taught a *Field Methods in Mammalogy* course each summer at Pigeon Lake Field Station near Drummond, Bayfield County (2002-2009). Summer is something I look forward to since I love being outdoors and working with smaller groups of students out in the field. With 75 mammalogy students in the fall, it's logistically difficult to incorporate intensive field studies. This course combines my traditional fall mammalogy course with my summer methods course. The tradeoff will be content. You will know more about the field aspects of mammalogy than the traditional fall students, but will only get a fraction of the lectures (10 versus 24). I think professors that treat summer courses as crash courses of their traditional courses are crazy. You can't do in three weeks what you normally do in 14 weeks. We have the opportunity in this class to contribute a species account to Animal Diversity Web, something I cannot do with 75 students. This is a great opportunity to provide a professional writing sample that can be used by professors writing letters of recommendation on your behalf.

### Learning Outcomes

- ✓ Examine mammal specimens and describe similarities and differences in order to distinguish, classify, and name them.
- ✓ Write a species account for the University of Michigan website Animal Diversity Web. Edit and publish your account on the web.
- ✓ Critically read and discuss primary literature in mammalogy.
- ✓ Conduct field studies of mammals using a variety of census techniques.

## **Mammalogy and the Bigger Picture**

UWSP offers one of the few mammalogy courses in the state and one of the largest, in terms of enrollment, in the country. Skills learned in mammalogy are applicable to the fields of wildlife management, epidemiology and zoonotic disease transmission, systematic biology, animal control, and the behavioral sciences. This course fulfills 3 credits of 300 level course work towards the Forty Credit Rule, a General Degree Requirement for a Bachelor of Science Degree and a Bachelor of Arts Degree. The course also fulfills an elective requirement for the Biology Major (advanced animal biology), an elective requirement for the Environmental Education and Interpretation option for the Resource Management Major, an elective requirement for the Wildlife Ecology Major, and an elective requirement for the Wildlife and Conservation Biology Minors.

## **Grading**

Your grade in this class will be determined by your participation in one mammal species account, one laboratory practical, ten quizzes, a field notebook, and a final exam. The species account is worth 100 points, the lab practical is worth 50 points, quizzes worth 5 points each, lab notebook worth 50 points, and the final exam worth 100 points. Thus, there are a total of 350 points to be earned in this class. The final points will be added up, divided by 350, and multiplied by 100; the percentage obtained will determine your grade.

90-100% = A (90-92 A-)

80-89% = B (80-82 B-, 88-89 B+)

70-79% = C (70-72 C-, 78-79 C+)

60-69% = D (68-69 D+)

< 60% = F

The lab practical exam will be at Kemp Field Station on Friday afternoon. You will turn in your field notebooks on Friday and I will grade them so that you can refer to them for your final on Saturday morning. Your field notebook is a record of what you did during the week in the field either individually or as part of a group (small group or entire class). I'll talk more about the field notebook at Kemp.

Much of the work for this course will be done online using D2L and other resources. The mammal species accounts this summer will be submitted to Animal Diversity Web. We'll be working closely with the group at the University of Michigan using their template to input information and select a mammal. The grade on this assignment will depend on the quality of the final account. UWSP mammalogy students are among the top contributors to this site (but my friend Link Olsen at the University of Alaska – Fairbanks is trying to catch us!). If you type in UWSP or Yahnke (I'm the editor on our accounts) you'll see some of these. Not everyone's account will be acceptable for publication. Only quality accounts are chosen by the editor of the website. As further incentive to have your account accepted for publication, Encyclopedia of Life (EOL.org) recently started using accounts published on ADW as the primary source material on their site. Online quizzes are based on readings in the primary literature.

They include papers on a variety of taxonomic groups such as monotremes, insectivores, rodents, carnivores, and primates, and a variety of topics such as feeding ecology, evolution, reproductive strategies, and neurophysiology.

### Academic Dishonesty

Any form of cheating (including working together on the final exam, plagiarizing on the species account), or any misrepresentation of your work will result in zero (0) points being recorded for that graded component of the course.

### \*\*\*SYLLABUS\*\*\*

Date	Topic
July	22 Introduction, Methods and Techniques for studying mammals Discussion: Kelt et al. Hantavirus risk
	23 Lecture 1: Environmental adaptations Lab 1: Handling and use of museum collections Bones and dental formula Lecture 2: Echolocation Field activities: Set traps for small mammals (Hemlock stand) Census bats Movie: Killer Shrews
	24 Lecture 3: Locomotion Lab 2: Marsupials, insectivores, and bats Lecture 4: Primary literature discussion Field activities: Check traps and process animals, reset traps Census bats Camera traps
	25 Lecture 5: Biological Rhythms Lab 3: Carnivores Lecture 6: Sexual selection, parental care, and mating systems Field activities: Check traps and process animals, move traps (Hemlock blow-down) Powder tracking demo part 1 Video: Dogs and More Dogs
	26 Lecture 7: Social behavior Lab 4: Rodents and rabbits Lecture 8: Communication, aggression, spatial relations Field activities: Check traps and process animals, reset traps Powder tracking demo part 2 Video: Life of Mammals; The Chiselers
	27 Lecture 9: Dispersal, habitat selection, and migration Lab 5: Open lab, study for practical Lecture 10: Parasites and diseases Field activities: Check traps and process animals, pick up traps

- Video: On the Trail of a Killer Virus  
Movie: Devil Bat (with Bela Lugosi)
- 28 Lab Practical exam  
Field activities: Northwoods Wildlife Center, clean traps and lab
- 29 Final Exam
- July 22-August 18 Online activities; Quizzes and Species Account

If updates are made to this syllabus the most recent syllabus will be posted on D2L. I will also send any updated syllabus to the class via email as an attached file.