

# Mammalogy

Fall

2021

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hours: Zoom by  
appointment.

Class Times

Tuesdays and Thursdays  
from 8:00 - 8:50 in CBB  
101. Labs will be Thursday  
and Friday in TNR 457.

Resources

Required textbook:  
Mammalogy by  
Feldhammer et al. /  
Mammals of the Great  
Lakes Regions by Kurta

## What will we do in mammalogy and what will I learn?

**“The scientist is not the person who gives the right answers, he is the one who asks the right questions.” – Claude Levi-Strauss**

The lecture portion of the course has two primary objectives. First, we will engage the mammals, primarily through lectures and discussions focusing on mammal structure and function, diversity, ecology, behavior, and biogeography. Second, we will engage ourselves by working on skills that matter in the marketplace. The laboratory portion of the course will focus on mammalian diversity through the study of museum materials and pictures. Efforts will be made to cover mammals of Wisconsin, North America, exotic mammals popular in zoos, as well as interesting mammals from around the world. Based on feedback from prior students we will be using Canvas to help prepare for laboratory exams and to organize course materials.



### Learning Outcomes

Examine mammal specimens and describe similarities and differences in order to distinguish, classify, and name them.

Solve problems individually and in groups related to laboratory and lecture assignments.

Research, analyze, and organize scientific data.

Communicate effectively, in writing and speaking, how to ask good scientific questions, how to design an experiment and test hypotheses, and how to present results in a public forum.



I love Josh Keyes. Name all the mammals.

“There have only been about a half dozen genuinely important events in the four-billion-year saga of life on Earth: single-celled life, multi-celled life, differentiation into plants and animals, movement of animals from water to land, and the advent of mammals and consciousness.”

- Elon Musk (CEO Space X, Tesla, odd duck)

### 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. 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 is determined by 3 laboratory practical exams, a squirrel research activity, daily notes uploaded to Canvas, 5 challenges, and 2 exams. The lab exams are worth 50 points each ( $50 \times 3 = 150$  points), and the research activity is worth 100 points. Lecture notes will be graded 20 times during the semester and each be worth 5 points ( $20 \times 5 = 100$  points). Note outlines can be copied and pasted from Canvas and use your textbook to fill in pertinent information. You will upload your notes to Canvas and can print a copy to bring to class. By completing notes before class everyone should know what we're talking about and be prepared to discuss the topic in class. There will be two non-cumulative lecture exams each worth 100 points ( $100 \times 2 = 200$  points). Finally, there will be 5 challenges worth 10 points each ( $5 \times 10 = 50$  points). Thus, a total of 600 points can be earned in this class. The final points will be added up, divided by 600, and multiplied by 100; the percentage obtained will determine your grade.

# UWSP RELEASES COVID-19 CAMPUS GUIDELINES

## Face Coverings:

- At all UW-Stevens Point campus locations, the wearing of face coverings is mandatory in all buildings, including classrooms, laboratories, studios, and other instructional spaces. Any student with a condition that impacts their use of a face covering should contact the [Disability and Assistive Technology Center](#) to discuss accommodations in classes. Please note that unless everyone is wearing a face covering, in-person classes cannot take place. This is university policy and not up to the discretion of individual instructors. Failure to adhere to this requirement could result in formal withdrawal from the course.

## Other Guidance:

- Please monitor your own health each day using [this screening tool](#). If you are not feeling well or believe you have been exposed to COVID-19, do not come to class; email your instructor and

contact Student Health Service (715-346-4646).

- As with any type of absence, students are expected to communicate their need to be absent and complete the course requirements as outlined in the syllabus.
- Maintain a minimum of 6 feet of physical distance from others whenever possible.
- Do not congregate in groups before or after class; stagger your arrival and departure from the classroom, lab, or meeting room.
- Wash your hands or use appropriate hand sanitizer regularly and avoid touching your face.
- Please maintain these same healthy practices outside the classroom.

## From Darwin's Journal or Researches December 7<sup>th</sup>, 1834, Chiloe Island, Chile

7<sup>th</sup> In the morning we stopped for a few minutes at a house at the extreme North point of Is<sup>d</sup> of Laylec. This was the last house; the extreme point of S. American Christendom; & a miserable hovel it was. — The latitude is about 43° 10', which is considerably to the South of the R. Negro on the Atlantic coast of America. The people were miserably poor & as usual begged for a little tobacco. — I forgot to mention an anecdote which forcibly shows the poverty of these Indians; some days since, we met a man who had travelled 3 & ½ days on foot, on bad roads, & had the same distance to return to recover the value of an axe & a few fish! How difficult it must be to buy the smallest article, where such trouble is taken to recover so small a debt. — We had a foul wind & a good deal of swell [502] to struggle with, but we reached the Island of S. Pedro, the SE extremity of Chiloe, in the evening. When doubling the point of the harbor, M<sup>rs</sup> Stuart & Osborne landed to take a round of angles. — A fox (of Chiloe, a rare animal) sat on the point & was so absorbed in watching their mænœuvres, that he allowed me to walk behind him & actually kill him with my geological hammer.



## ATTITUDE

Nothing can stop the person with the right mental attitude from achieving their goal; nothing on earth can help the person with the wrong mental attitude. Thomas Jefferson

## Squirrels!!

This semester we will try and contribute to a national dataset on squirrel behavior. This is something that a group of mammalogists around the country have been developing for a few years, and we just got an NSF grant to work more on these modules. Most of our modules work particularly well in our current Coronavirus landscape.

**Data collection points (25 points):** You will contribute data on the squirrel behavior project as individuals and submit your data to a national dataset. I will make a podcast with instructions and add a page to Canvas with the relevant information and links. On November 15<sup>th</sup> I will download the datasets and put them on Canvas. These are the dataset you will use for your team presentations. I will include a rubric on the assignment to guide you. If we are still in-person at the end of the semester, you will present live at the end of the semester.

**Team points (50 points):** *Alienus Non Diutius* is Latin for "Alone no longer". It is displayed prominently at Pixar, one of the most innovative and creative movie studios in the world. My brother's ex-girlfriend worked for Pixar on *The Incredibles* (he's married now to the librarian at the Sierra Club, an even cooler job!), and as I watched the credits looking for her name the number of people that worked on that movie impressed me. That individual product required a lot of teamwork (my wife and I always stay for the credits - we paid for them 😊). Your team will receive a group grade for the project, meaning all members of the team will get the same grade.

**Team evaluation points (25 points):** You will assess yourself and your teammates regarding their individual contributions to the final product.

**Academic Dishonesty:** Any form of cheating on exams, homework, or any misrepresentation of your work will result in zero (0) points being recorded for that graded component of the course. **This includes plagiarism of published works or fellow students. Please see me for any clarification on what constitutes plagiarism if you have doubts.** All students are required to adhere to the standards outlined by UWS/UWSP Chapter 14, Student Academic Standards and Disciplinary Procedures which can be found at the following web address: <http://www.uwsp.edu/admin/stuaffairs/rights/rightsChap14.pdf>



These two gray squirrels were caught on a trail camera foraging on the seed trays. Each tray has three liters of play sand with 10 grams of shelled sunflower seeds mixed into the sand. The trays remain out for about seven hours. The sand is sifted to separate out the remaining seeds, and these are weighed. The amount of seeds remaining is called the Giving Up Density (GUD).

With 75 students, we will not tackle the GUD module, but instead contribute to the squirrel behavior module. Last year a number of institutions around the country contributed to this module, growing the dataset immensely thus increasing the statistical power of the data. I will introduce you to some free, powerful statistical packages that are easy to use.

“If you want something done right, then ask a mammalogist to do it.”

- James S. Findley



## How do I succeed in this course?

*The first key to success in this course is getting into the rhythm* of assigned reading, upload class notes to Canvas, attend and participate in lectures, download and read lab materials, attend and participate in labs, and rise to the challenges. This rhythm alone will get you 150 “free” points. This might be short of the axiom that 95% of success is simply showing up, but it’s a start.

*The second key to success is embracing the material* and the assignments. If you grudgingly work at a class you are probably interested in, what will happen when your employer gives you a task that does not challenge you? Attitude matters and college is a relatively safe place to work on attitude.

*Finally, you will probably have to study* - [stupid college classes☺!] Organismal biology courses like this have lots of names to memorize. With each specimen in lab, think about potential questions I could ask. I give essay exams in lecture so look for 2 or 3 big ideas from each lecture that could be the basis of an essay question.

Date	Topic	Chapter	
September	2	<i>Psychedelic haiku bat hand challenge</i>	
	2-3	Lab 1: Bones and dental formula	
	7	Monotremes and Marsupials	12
	9	Phylogeny and diversification of mammals	
	9-10	Lab 2: Monotremes and Marsupials	
	14	Insectivores	13
	16	Foods and feeding	8
	16-17	Lab 3: Insectivores	
	21	Locomotion	7
	23	Echolocation	14
	23-24	Lab 4: Chiroptera <i>Marshfield Zoo bats challenge</i>	
	28	Communication, aggression, spatial relations	
	30	Environmental adaptations	10
	30-1	Lab 5: <b>LAB EXAM I</b>	
October	5	Dillos, anteaters, sloths, pangolins, and aardvarks	16
	7	Reproduction	11
	7-8	Lab 6: Pilosa, Cingulata, Pholidota, Tubulidentata	
	12	Biological Rhythms	9
	14	Sexual selection, parental care, and mating systems	23
	14-15	Lab 7: Marine mammals	
	19	<b>LECTURE EXAM I</b>	
	21	Carnivora	
	21-22	Lab 8: Carnivora	17
	26	<i>Conceptual blending and the marten challenge</i>	
	28	Dogs and More Dogs video	
28-29	Lab 9: <b>LAB EXAM II</b>		
November	2	Primates	15
	4	Social behavior	24
	4-5	Lab 10: Primates	
	9	Rodentia and Lagomorpha	18
	11	Dispersal, habitat selection, and migration <i>Chamber's Island mouse challenge</i>	25
	11-12	Lab 11: Rodentia and Lagomorpha I	
	16	Populations and life history	26
	18	Community ecology	
	18-19	Lab 12: Rodentia and Lagomorpha II	
	23	Parasites and Diseases <i>White-nose syndrome team challenge</i>	2
December	25	Thanksgiving Break	
	30	Perissodactyla and Artiodactyla	
	2	Presentations I	
	2-3	Lab 13: Perissodactyla and Artiodactyla	
	7	Presentations II	
	9	Presentations III	
	9-10	<b>Lab 14: Final Lab Practicum</b>	
	17	<b>Final Exam – 8:00 – 10:00 (Tuesday)</b>	

The top 10 skills employers say they seek in college graduates in order of importance.



*“Individual commitment to a group effort - that is what makes a teamwork, a company work, a society work, a civilization work.”  
- Vince Lombardi*



Job Outlook 2019 – National Association of Colleges and Employers

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

**Is College Worth It?** It depends on what Gallup refers to as the “Big Six”. Graduates who had the following six experiences perform better on measures of long-term success compared with graduates who missed the mark on these experiences:

1. A professor who made them excited about learning.
2. Professors who cared about them as a person.
3. A mentor who encouraged them to pursue their goals and dreams.
4. Worked on a long-term project.
5. Had an internship where they applied what they were learning.
6. Were extremely involved in extra-curricular activities.

Source: “Big Six” College Experiences Linked to Life Preparedness by Sean Seymour and Shane Lopez, April 2015, Gallup.com.