

Carnivore Ecology

Wildlife 332



Carnivores vs Carnivorans

Carnivores eat meat whereas carnivorans are members of the mammalian Order Carnivora, most of which eat meat

This course will focus on the 16 families that make up the mammalian Order Carnivora. We will focus on those families found in Wisconsin but also touch on other interesting families like marine carnivores and hyenas. We will discuss the evolution, functional morphology, life history, ecology, and

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TNR 346 Zoom or live
Office Hours by
appointment
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2

Monday lecture 11:00

1:00- 1:50 TNR 361

Tuesday lab 2:00-3:50
TNR 352

3

CARNIVORE WAY

We will discuss the
book Carnivore Way
and the ecological and
conservation principles.



Form follows function

The teeth of this otter look different than weasels.



Bones and structures

The prominent sagittal crest on a wolverine



Dental Formula

We can infer dietary breadth from the dental formula and tooth shape.

conservation biology of each family, focusing on those species found in the state. Each week we will discuss a case study, many of which were published in a 3 volume series edited by David Macdonald. We will also be reading a book by Dr. Cristina Eisenberg called The Carnivore Way and discussing the ecological and conservation principles described in the book.

Tentative Syllabus

Date Topic

1/23 Introduction 1/24 Lab: Discussion on course objectives, contract, teams

1/30 Phylogeny of Carnivores 1/31 Lab: Intro to teeth 🦷 and bones 🦴 , intro TCW

2/6 Raccoons 2/7 Lab: Procyonids, Student Presentation chapter 1 TCW

2/13 Skunks 2/14 Lab: Skunks, Student Presentation chapter 2 TCW



Confirmed cougar captured on a Waupaca County trail camera.

2/20 Foxes and small dogs 2/21 Lab: Grey and red fox 🦊, student presentation chapter 3 TCW

2/27 Wolves and big dogs 2/28 Lab: Wolf skulls, Student Presentation chapter 5 TCW

3/6 Bears 3/7 Lab: Bear skulls, Student Presentation chapter 4 TCW

3/13 Badgers 3/14 Lab: Badgers, whip around badger talks

3/20 Spring Break

3/27 Marine Carnivores 3/28 Lab: Marine carnivore skulls, MMM carnivore quick talks

MARCH MAMMAL MADNESS

Spring is the season of college basketball's March Madness and my colleagues in the American Society of Mammalogists developed March Mammal Madness as an educational way to teach about mammals and even some other weird critters. Don't have the bracket yet, but we'll see if there are any carnivores. We an fill out the brackets and follow along for fun. Fun. No grades. Fun. Maybe, just maybe we will learn in the process.



4/3 Fishers, Wolverines, and Martens 4/4 Lab:
Student Presentation chapter 6 TCW

4/10 Small Cats 4/11 Lab: Lynx vs Bobcat,
Student Presentation chapter 7 TCW

4/17 Large Cats 4/18 Lab: Estimating bite
force, Student Presentation chapter 8 TCW

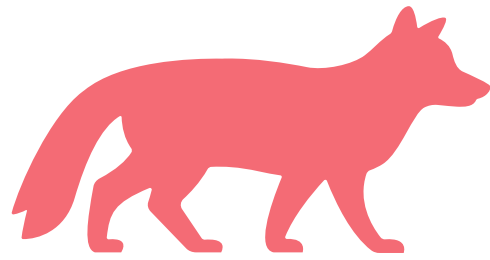
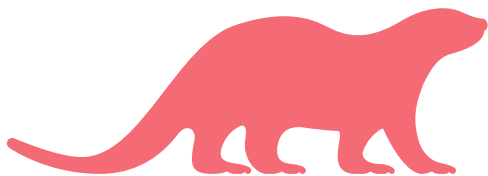
4/24 Hyenas 4/25 Hyena skulls, Student
Presentation Chapter 9 TCW

5/1 Weasels 5/2 Lab: Weasel material, work on
lab journal

5/8 Otters 5/9 Lab: Otter material, submit final
lab journal to Canvas

How will you be assessed?

Why do we grade? What is it you want to get out of this course? Do students read the syllabus? What is love and why are we here? We will discuss three of these during the semester, the other two you will have to figure out on your own. The traditional way of assessing student learning is through quizzes, exams, homework, term papers, etc. How will you be assessed when you find a job as a natural resources professional?



What is the class format?

We will learn about Carnivorans through reading and discussing a number of case studies and primary literature studies during the lecture period. During lab we will look at cranial material to understand how carnivory varies within the order. We will also use this time for teams of students to lead discussions on The Carnivore Way. Those presentations should be about 15 minutes in length summarizing the chapter followed by a discussion period.

While I have a general plan for the course, I am interested in the students coming up with some learning outcomes for the class as well.

This is the first course I attempted to teach ungraded and I learned some lessons from that experience in 2022. We will use contract grading (a form of Ungrading) so that you know what is expected for a grade of A and B. I don't have contracts for lower grades but that does not mean you can't earn a lower grade.

This is a senior-level ecology course and I expect you to have knowledge of general ecology from the many courses you have taken as wildlife ecology majors. This is NOT going to be a lecture course teaching more ecology and yet another taxonomic group (e.g. raptor ecology, ungulate ecology, waterfowl ecology, fish ecology, bear ecology, behavioral ecology,

etc.). I expect you to come to class having done the planned reading (I know, life stinks when you have to do stuff outside class like read 🐉 🐉).

Contract

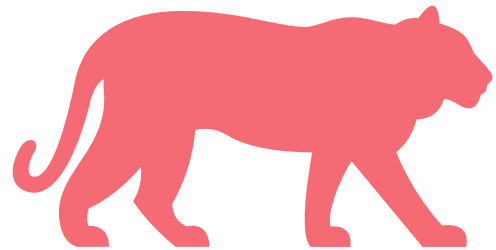
For a grade of A Students commit to the following:

- (1) Attendance - It used to be true that showing up for work was important, but the pandemic taught us in some cases people can be productive from home. We evolved to learn in community; we are a social species. It is hard to engage a topic with others if you are not present. Commit to showing up to class prepared to discuss the assigned paper or book chapter. A student is allowed two excused absences.
- (2) Reflections - There will be 10 reflections in which you will articulate what you found most compelling about the readings and how it ties in with other things you've learned. Commit to completing all 10 reflections with a satisfactory grade of 3.
- (3) Laboratory journal - I have been struggling with the best way to manage labs and thought I'd try having students generate a digital journal. Students have all the tech they need to do this, but it should be a combination of labeled images and text corresponding to the material for the week. This will take the place of lab exams, and will provide you with a reference document.
- (4) Discussion lead - you will work with one or two other students to lead a chapter discussion from The Carnivore Way. A

satisfactory discussion will consist of a 10-15 minute introduction of the chapter reading followed by a series of discussion topics.

For a grade of B students will commit to the following:

- (1) Attendance - Commit to showing up prepared to discuss the assigned paper or book chapter. A student is allowed five excused absences.
- (2) Reflections - Commit to completing 8 of the 10 reflections with a satisfactory grade of 3.



- (3) Laboratory journal - Commit to preparing a laboratory journal.
- (4) Discussion lead - Commit to leading a chapter discussion from The Carnivore Way.

Grades of C and below are reserved for students who fail to meet the contract.