COURSE SYLLABUS
ZOO 4370 Mammalogy
Fall 2017

Instructor Information:

Instructor: Jacob R. Goheen (Jake)
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Office: Berry Center 146 **Office Hours: TTh 800-930 or by appointment**

Teaching Assistant: **Jesse Alston, jalston@uwyo.edu**
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Lab Assistants: **Tony Mort (Monday), Carysa Jorgensen (Wednesday)**

Course Information:
Lecture MW 1310-1400 Berry Center 138; Lab M or W 1410-1700 Berry Center 217

Prerequisites: LIFE 2022 (Animal Biology) or consent of instructor

Course Description: This course provides an overview of the biology of Class Mammalia, the mammals. In addition to lecture, this course involves laboratory exercises with optional fieldwork outside of class. Lecture and lab are essentially independent of each other. In lecture, we will cover biological concepts using all ~25 orders of mammals in the world; in lab, we will focus primarily on identification and natural history of the terrestrial mammals of Wyoming.

Disability Statement:
"If you have a physical, learning, sensory or psychological disability and require accommodations, please let me know as soon as possible. You will need to register with, and provide documentation of your disability to University Disability Support Services (UDSS) in SEO, room 330 Knight Hall."

Lecture Objectives:
1) Gain knowledge and further appreciation for the biology and diversity of mammals worldwide.
2) Use case studies of mammals to comprehend classic and contemporary issues in animal behavior, biogeography, conservation, ecology, and evolution.
3) Hone critical thinking skills through analysis of material presented in class and primary literature.
4) Acquire ability to interpret scientific graphs and datasets.

Laboratory Objectives:
1) Identify all terrestrial and volant mammalian orders and families in Wyoming.
2) Identify most terrestrial and volant mammalian species of Wyoming using skin and skull specimens.
3) Conduct a field work for sampling mammals with Sherman live traps and mist nets (optional).
4) Prepare a museum skin specimen or a skull specimen (optional).

Text(s) and Readings: primary literature and Wild Mammals of Wyoming and Yellowstone NP (Buskirk)

Course Requirements/Assignments: 3 exams (3rd optional), 1 cumulative final, class participation, lab quizzes, cumulative lab practical.

Grading: A = 90.00-100%; B = 80.00-89.99%; C = 70.00-79.99%; D = 60.00-69.99%; F ≤ 59.99%
lecture: 2 exams (1st exam = 66 pts, 2nd exam = 67 pts, 3rd exam = 67 pts [optional]), 1 cumulative final (100 pts), class participation (30 pts). 60% of your course grade.
lab: 8 quizzes (20 pts each, lowest quiz dropped for a total of 140 pts on quizzes), 1 cumulative practical (80 pts). 40% of your course grade.

A note about Exam 3: if you choose not to take exam 3, the percent (grade) you earned on exams 1 and 2 will be scaled to 100 points each (instead of 66 and 67 points). If this is confusing, unclear, or otherwise stressful, Jake recommends that you take Exam 3.

A note about calculating your grade: I will show you your grade once during the semester, sometime during the last two weeks of class. If you need to know your grade at any other time, I will be counting on you to calculate it yourself. Please understand that I will be unable to calculate grades at any other times than these, although you are free to email me what you think your grade is for me to confirm.

Attendance/Participation Policy:
University sponsored absences are cleared through the Office of Student Life.

If you anticipate missing a test or a lab, it is your responsibility to make arrangements with me or your lab TAs at least 1 week in advance. Emergencies will be considered on a case-by-case basis.

Attend the lab section in which you are enrolled. If you need to switch out for a particular week, it is your responsibility to make arrangements with your lab TA at least 1 week in advance. Missing lab from this course to attend a lab from another course will not be accepted as an excuse to miss lab. Failure to attend lab sections in which you are enrolled without advanced warning will result in a 0 on that week's quiz.

Academic Honesty:
UW Regulation 6-802. The University of Wyoming is built upon a strong foundation of integrity, respect and trust. All members of the university community have a responsibility to be honest and the right to expect honesty from others. Any form of academic dishonesty is unacceptable to our community and will not be tolerated [from the UW General Bulletin]. Teachers and students should report suspected violations of standards of academic honesty to the instructor, department head, or dean. Other University regulations can be found at: http://www.uwyo.edu/generalcounsel/info.asp?p=3051)

Course Outline (subject to change):

Week (Date):	Topic	Pre-Reading
1 (Aug 30):	Introductions, and whatnot	NA
2 (Sep 6):	What is a mammal?	Ceballos and Ehrlich 2009.
3 (Sep 11):	Diversity and Systematics 1: Monotremata through Peramelina	NA
3 (Sept 13):	Diversity and Systematics 2: Scandentia through Artiodactyla	Wong 2002.
4 (Sep 18):	Diversity and Systematics 3: Chiroptera through Primates	Sykes et al 2014, MacLeod 2014.
4 (Sep 20):	The third chimpanzee	Nagasawa et al 2015.
5 (Sep 25):	Global conservation of mammals	Crooks et al 2017.
5 (Sep 27):	Tie up loose ends	NA
6 (Oct 2):	Test 1	NA
6 (Oct 4):	Discussion of Test 1	NA
7 (Oct 9):	Metabolism and diet	Carbone and Gittleman 2002.
7 (Oct 11):	Animal behavior: foraging	NA
8 (Oct 16):	Animal behavior: sexual selection	Emlen and Oring 1977.
8 (Oct 18):	Population ecology: migration	Sawyer et al 2013.
9 (Oct 23):	Population ecology: density-dependence	Pauli and Buskirk 2007.

9 (Oct 25):	Community ecology: predation and parasitism	Ford et al 2014.
10 (Oct 30):	Community ecology: interspecific competition	NA
10 (Nov 1):	Test 2	NA
11 (Nov 6):	Mutualisms, mimicry, and evolutionary Spandrels	Goheen and Palmer 2010.
11 (Nov 8):	Mutualisms continued; Discussion of Test 2	NA
12 (Nov 13):	Biogeography and macroecology	Channell and Lomolino 2001.
12 (Nov 15):	Guest lecture	NA
13 (Nov 20):	Paleoecology	Smith et al 2010.
14 (Nov 27):	Mammal personalities and the evolution of brain size	NA
14 (Nov 29):	The ecology and evolution of domestication	NA
15 (Dec 4):	Societies and economies of the third chimpanzee	Brown et al 2014.
15 (Dec 6):	Test 3 (optional)	
16 (Dec 11):	Study session for final	NA

Lab Schedule (subject to change):

Lab (Date):	Topic	Activity
Lab 1 (11 and 13 Sep):	Mammalian dentition and skull	NA
Lab 2 (18 and 20 Sep):	Mammal orders of the world	Quiz over Lab 1
Lab 3 (25 and 27 Sep):	Orders Didelphimorphia, Soricomorpha, and Chiroptera	Quiz over Lab 2
Lab 4 (2 and 4 Oct):	Order Rodentia (Muridae)	NA (Lecture Test 1)
Lab 5 (9 and 11 Oct):	Order Rodentia (Sciuridae)	Quiz over Labs 3-4
Lab 6 (16 and 18 Oct):	Order Rodentia (remaining families)	Quiz over Lab 5
Lab 7 (23 and 25 Oct):	Order Carnivora (Canidae, Felidae, Ursidae)	Quiz over Lab 6
Lab 8 (30 Oct and 1 Nov):	Order Carnivora (Mustelidae, Procyonidae)	NA (Lecture Test 2)
Lab 9 (6 and 8 Nov):	Orders Cetartiodactyla and Perissodactyla	Quiz over Labs 7-8
Lab 10 (13 and 15 Nov):	Specimen preparation (optional)	Quiz over Lab 9
Lab 11 (27 and 29 Nov):	Open Lab for Review	NA
Lab 12 (4 and 6 Dec):	Lab Practical	NA

Electronic copies of the reader and the syllabus can be found on the course website.

Important Note 1

Email Policy: Communication is important. Please treat email correspondence as though it matters (because it does!) by initiating email with a greeting and signing off with your name. I will try my best to respond to email queries within 48 hours, provided questions are clear and concise. If your question will take more than 1-2 minutes to answer, it's best to come to my office hours or schedule an appointment outside of office hours; I'd be happy to answer your question then. If questions are written with improper spelling, grammar, or syntax, I reserve the right to ignore them.

Important Note 2

Participation: In each lecture, several questions will be posed to the class. Sometimes, I'll be looking for spontaneous answers; other times, I'll ask you to break into groups with 5 minutes or so to ruminate on these. These questions will extend some aspect of the lecture material in attempt to spur communication and critical thinking, while helping you to become more comfortable with impromptu delivery of scientific material. I am looking for evidence of engagement, problem-solving, and critical thought; I am less concerned that your answer is "correct".

Important Note 3

Throughout the semester, you will be asked to print and bring to class materials posted on the website. To the extent that it is possible, please make double-sided copies and please recycle materials at the end of the semester. Thank you.

Tips for Success in Mammalogy

1) *Be in class, be punctual, and be engaged.* I will not take attendance, but final grades have been correlated positively with attendance since 2011. Moreover, simply attending class is necessary but probably insufficient. Be engaged and assertive in both lecture and lab.

2) *Participate in both lecture and lab.* I assume that you will have read assigned pages prior to lecture. Questions make understanding easier, and are a requirement for doing science. So, ask them! Also, if something is unclear to you, odds are it is to a classmate as well. When a classmate raises his/her hand, listen both to the question and the answer.

3) *Keep current.* This is general advice for any course, but it is especially true for courses in which memorization is a key component (e.g., most of the "ologies"). Students will vary widely in the ease with which they are able to memorize scientific names, and some students should expect to spend more time than others studying these.

4) *Learn how you learn.* Students can re-write notes, drill flashcards, draw graphs, make charts, or some combination of these and other study methods. Figure out which approaches work best for you. Again, this is good advice for most courses, but particularly those that combine critical thinking, conceptualization, and memorization (like this one!).

5) *Study with others AND by yourself.* Group work is a good thing, because others can clarify issues with which you're struggling. Working by yourself is also a good thing, because it allows you to focus in depth on what you need to learn (rather than just whatever your group happens to be discussing). Aim for a combination of both of these.

6) *Review notes and ppt pdfs quickly (within 48hrs of class) and ask for clarification when needed.* Unfortunately I am not a jedi, which means it is hard for me to intuit when the material is being covered too quickly or otherwise unclearly. It is my responsibility to ensure you understand the material; this requires you letting me know when you don't understand something.

7) *Make the most of your time in lab*. The degree to which students make use of the full 3 hours has been correlated positively with lab grades since 2011.