ZOOL 4640—Mammalogy—Fall 2018

Times/Room: Mon. and Wed. 8:00 to 10:50 a.m. (labs) N 211
Mon. and Wed. 11:00 to 11:50 a.m. (lectures) N 221

Instructor: Dr. Patrick Kelly, Professor of Zoology and ESRP Coordinator
Office hours: N277—Tuesdays 9-11 and Fridays 9-10, or by appointment.
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Email: pkelly@csustan.edu

Email is the best way to reach me. I usually respond quickly to simple requests and questions, but please write Zool 4640 in the subject line, and include your full name.

Communication: Please check your email and Blackboard every day. You can set up your Stan State email to forward emails to an address you check more frequently

Initial Class Meeting: Wednesday, August 22, 2018 at 11:00 a.m.

Teaching Assistants: Vanessa Martinez vmartinez16@csustan.edu
Rachael Devaughn rdevaugh@csustan.edu

Course Description—This course covers classification, distribution, ecology, behavior, and form and function as they relate to the life histories of mammals, including their identification in the field and the laboratory.

Prerequisites—BIOL 1050 and BIOL 1150 (or equivalent introductory series) and CHEM 1100 and CHEM 1110 with grades of C- or higher, or consent of instructor.

Textbooks: there are two required textbooks.

Mammalogy: adaptation, diversity, ecology by Feldhamer, Drickamer, Vessey, Merritt, and Krajewski (4th ed., 2015); used mostly in lecture; required; notated as F15 in schedule.

Mammals of California by Jameson and Peeters (revised ed., 2004; used mostly in lab; required; or *Mammals of North America* by Kays and Wilson, 2nd ed., 2009.

Course Objectives:

1. Know characteristics that define mammals.
2. Know what makes mammals so evolutionarily successful.
3. Know the major 'groups' of mammals.
4. Know the basic ecology and life history of common mammals.
5. Develop a better understanding of mammals in their natural environment.
6. Know how to set live-trap and camera-traps to study mammals in the field.
7. Learn how to be a good observer and note taker in the field.
8. Work with peers to solve problems related to natural history observations.
9. Write professional summary reports based on first hand observations.
10. Give professional oral presentation of findings.

Grades: Grades will be assigned on a percentage of the possible points earned, thus A = 90+%, B = 80-89.5 %, C = 70-79.5 %, D = 60-69.5 %, F < 59.5%.
NOTE: There will be no "+" or "-" grades given. Credit/No Credit is not an option.

3 lecture exams (80 pts ea.)	240 pts
3 lab exams (50, 80, & 80 pts)	210 pts
Field Trips (4; 1 assignment/trip)	200 pts
Final Exam	100 pts
TOTAL =	750 pts

Lecture exams (240 pts; 32% of total) will be on material covered in lecture but may also include material specifically referred to in readings. These exams may include any type of question except for multiple-choice.

Lab exams (210 pts; 28%) will be on material covered in the labs.

Field trip assignments (200 pts; 27%) will vary by field trip, as will their points. This is because the field trips vary in terms of their duration and the types and amount of information encountered.

The **Final Exam** (100 pts; 13%) will be comprehensive; questions will relate to material encountered in lectures, labs, and field trips.

Field trips are a critically important part of this course. Field trips are important because there is only so much that you can learn from books, lectures, videos, and even specimens in the lab. We really must get into the field to get up close and personal with living, breathing mammals, and even with some extinct mammals too.

We are fortunate to live in a part of the world that has a very rich mammal fauna on land, sea, and in the air. California also a rich history of mammalogy. To take advantage of these nearby riches, there will be 4 field trips, all on Saturdays, two local* trips (provide your own transport/car pool) and two more distant (transportation provided):

1. Sept. 15: Fossil Discovery Center of Madera County*—Mammals of the Middle-Pleistocene (Colombian mammoth, saber-toothed cat, dire wolf, giant ground sloth).
2. Oct. 13: Marine Mammals of Monterey Bay—Boat trip (3 hrs) on Monterey Bay with Sanctuary Cruises followed by a visit to the vertebrate lab at Moss Landing Marine Lab. (Stan. State is a member of the MLML Consortium)
3. Oct. 27: San Joaquin River National Wildlife Refuge*—Live-trapping, camera-trapping, and tracking and other sign detection of mammals in the field.
4. Nov. 10: Museum of Vertebrate Zoology at the University of California, Berkeley—Hosted by Dr. James Patton, Emeritus Professor and Curator of Mammals, we will visit a world-famous research museum and mammal collection.

These field trips will make the learning experience more meaningful and the class very memorable. I will add that our Dean is subsidizing the cost of field trips; your lab fee will not cover the actual cost, so this will be a great experience at a bargain price.

Important Notes:

1. Exams must be taken as scheduled. Any missed exam will result in a grade of 0 for that exam, unless a written and verifiable excuse (also unavoidable circumstance) is provided.
2. All safety protocols and instructions for specimen handling must be strictly followed.
3. Any form of cheating (including plagiarism—see below) will not be tolerated. Incidents of cheating are also reported to the administration.
4. Audio or video recording is not allowed in this course with the exception that still photographs may be taken of the specimens.

Other expectations

1. You are expected to treat everyone in class with respect and kindness. In order to create a thriving learning community, it is important that we encourage one another to do our best.

2. To avoid distracting yourself and others, please do not phone, text, email, social network, surf the web, or do work for other classes when we are working on in-class activities. All electronic devices (phones, tablets, music players, etc.) must be turned off and kept in your bag during class. Class time is not to be used for checking email, texts, Facebook, etc. If you must respond to a voice mail or text (e.g., re. a family matter), please step out of the room, preferably after I am done presenting new material so that you do not distract others.
3. I do not allow the use of laptops for note-taking during my lectures and presentations. This is because there is now more than ample evidence that students who take notes by hand *remember conceptual information better than those who take notes on a computer*[1]. So, please get yourself a good notepad or binder for the class. It is very important to take good notes on the materials I will be covering. Come exam time, there is no substitute for good notes.
4. Come to class properly prepared by doing any assigned readings prior to class.
5. Engage the material deeply and critically. Treat your education as if it is helping to prepare you to change the world (which hopefully it is).
6. Attend every class activity[2], be on time, and participate fully. Absences will be noted.
7. You will be required to work independently on some assignments but not on others.
8. Be sure to complete and turn in all assignments on time. Points will be deducted for assigned materials that are turned in late (10% per day).
9. Maintain the highest standards of academic integrity. Your work must be your own. Plagiarism—taking direct quotes or ideas from other sources without attribution—is cheating, and will not be tolerated. Plagiarism and other forms of cheating will result in an automatic F grade in this course Note that I am good at detecting plagiarism and you should note that I use *Turnitin* to objectively evaluate written submissions. Do not take the risk. If you have questions about what is acceptable, please ask me.
10. Take the initiative to use course and campus resources (my office hours[3], web sites, readings, the Writing Center, Library) to get the most out of the course.
11. Please be neat and clean up after yourself.

Your instructor: Your instructor will do his best to provide you with a stimulating, useful, and fun course; will treat you fairly and with respect; assign grades impartially; be available to help during office hours and via email; do his best to return assignments and post grades in a timely manner.

Your teaching assistants: We have two excellent undergraduate student assistants in Vanessa Martinez and Rachael Devaughn to assist you in lab and the field, and they may each also give a lecture or presentation on some topic. Both have already taken the class and performed at the highest level. I view them as instructors-in-training and you should too.

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[1] Holstead, C.E. 2015. The benefits of no-tech note taking. Chronicle of Higher Ed. (March 4, 2015)
[2] Including the field trips.
[3] I expect every student in the class to avail of my office hours at least once during the semester.

Wk	D	Date	Time	**Tentative Lecture Schedule** (F15: Feldhamer et al. ref.)
1				
	W	22 Aug	11-11:50	Initial class meeting.
2	M	27 Aug	11-11:50	Introduction (F15-1), Characteristics (F15-5, 7, 8)
	W	29 Aug	11-11:50	Characteristics (cont.)
3	M	3 Sept	11-11:50	**LABOR DAY - HOLIDAY**
	W	5 Sept	11-11:50	History (F15-2), Evolution (F15-5)
4	M	10 Sept	11-11:50	Reproduction (F15-11)
	W	12 Sept	11-11:50	Reproduction (cont.)
5	M	17 Sept	11-11:50	Monotremes (F15-12)
	W	19 Sept	11-11:50	Marsupials (F15-12)
6	M	24 Sept	11-11:50	**Lecture Exam 1 (80 pts)**
	W	26 Sept	11-11:50	Intro. to Eutherians; “Insectivora” et al. (F15-13)
7	M	1 Oct	11-11:50	Chiroptera (F15-14)
	W	3 Oct	11-11:50	Chiroptera (cont.); Primates (F15-15)
8	M	8 Oct	11-11:50	Xenarthra et al. (F15-16)
	W	10 Oct	11-11:50	**NO CLASS—Non-instructional day**
9	M	15 Oct	11-11:50	Carnivora (F15-17)
	W	17 Oct	11-11:50	Carnivora (cont.)
10	M	22 Oct	11-11:50	Rodentia (F15-18)
	W	24 Oct	11-11:50	Rodentia (cont.)
11	M	29 Oct	11-11:50	Lagomorpha (F15-18)
	W	31 Oct	11-11:50	**Lecture Exam 2 (80 pts)**
12	M	5 Nov	11-11:50	Proboscidea et al. (F15-19)
	W	7 Nov	11-11:50	Cetacea (F15-21)
13	M	12 Nov	11-11:50	Perissodacytla (F15-20)
	W	14 Nov	11-11:50	Artiodacytla (F15-20)
14	M	19 Nov	11-11:50	Topic TBD—Guest Speaker
	W	21 Nov	11-11:50	**Lecture Exam 3 (80 pts)**
15	M	26 Nov	11-11:50	Biogeography (F15-6)
	W	28 Nov	11-11:50	Metabolism and Thermoregulation (F15-10)
16	M	3 Dec	11-11:50	Metabolism and Thermoregulation (cont.)
	W	5 Dec	11-11:50	Mammalian Social Organization (F15-22, 23, 24, 25)
17	M	10 Dec	11-11:50	Conservation (F15-30)
FW	W	12 Dec	11-11:50	**Final Exam (90 pts)**

Wk	D	Date	Time	Lab Schedule
1				
	W	22 Aug	8-10:50	No Lab (first day of class)
2	M	27 Aug	8-10:50	Morphometrics (for systematic studies; F15-3, p. 39)
	W	29 Aug	8-10:50	Characteristics
3	M	3 Sept	8-10:50	**LABOR DAY - HOLIDAY**
	W	5 Sept	8-10:50	Characteristics (cont.), Skulls, Teeth, Skeleton
4	M	10 Sept	8-10:50	Skulls, Teeth, Skeleton (cont.)
	W	12 Sept	8-10:50	Open Lab; Coordinate Field Trip 1
5	M	17 Sept	8-10:50	**Lab Exam 1 (50 pts)**
	W	19 Sept	8-10:50	Monotremes
6	M	24 Sept	8-10:50	Marsupials
	W	26 Sept	8-10:50	"Insectivora" et al.
7	M	1 Oct	8-10:50	Chiroptera **FDC assignment due**
	W	3 Oct	8-10:50	Chiroptera (cont.), Primates
8	M	8 Oct	8-10:50	Marine Mammals (emphasis on Monterey Bay: Cetacea, Carnivora)
	W	10 Oct	8-10:50	**NO CLASS**
9	M	15 Oct	8-10:50	No lab (replaced by lab at MLML on 10/13 PM)
	W	17 Oct	8-10:50	Primates (cont.), Xenarthra et al.
10	M	22 Oct	8-10:50	Xenarthra et al. (cont.), Carnivora
	W	24 Oct	8-10:50	Open Lab
11	M	29 Oct	8-10:50	**Lab Exam 2 (80 pts) MB/MLML assignment due**
	W	31 Oct	8-10:50	Rodentia
12	M	5 Nov	8-10:50	Rodentia, Lagomorpha
	W	7 Nov	8-10:50	Rodentia, Lagomorpha (cont.)
13	M	12 Nov	8-10:50	Proboscidea et al. **SJR NWR assignment due**
	W	14 Nov	8-10:50	Cetacea (revisited)
14	M	19 Nov	8-10:50	Perissodacytla
	W	21 Nov	8-10:50	Artiodacytla
15	M	26 Nov	8-10:50	Exercise (radiotelemetry) **MVZ assignment due**
	W	28 Nov	8-10:50	Open lab
16	M	3 Dec	8-10:50	**Lab Exam 3 (80 pts)**
	W	5 Dec	8-10:50	Exercise (camera-trapping on campus)
17	M	10 Dec	8-10:50	Exercise (camera-trapping on campus)

Wk	D	Date	Time	Field Trip Schedule
4				
	Sat	15 Sept		**Field Trip 1—Fossil Disc. Center of Madera Co.**
8				
	Sat	13 Oct		**Field Trip 2—Monterey Bay (marine mammals)**
10				
	Sat	27 Oct		**Field Trip 3—San Joaquin River National Wildlife Refuge (trapping)**
12				
	Sat	10 Nov		**Field Trip 4—U.C. Berkeley, Museum of Vert. Zoology**