

MAMMALIAN ECOLOGY AND EVOLUTION

BIOL 4057-001 / 5057-001

Fall 2023 Syllabus

COURSE INSTRUCTOR

Dr. Jaime E. Jiménez, *Wildlife Ecologist*, UNT, Department of Biological Sciences, ENV 310V. e-mail: Jaime.Jimenez@unt.edu ([My Web Site](#); [Faculty Information](#); [Google Citations](#); [ResearchGate](#))

Invited Lecturers:

Dr. Ramiro D. Crego, *Ecologist*, University College Cork, Ireland. ramirocrego84@gmail.com
([Ramiro's Web Site](#); [Google Citations](#); [ResearchGate](#))

Dr. Elke Schüttler, *Ecologist*, Universidad de Magallanes, Cape Horn Center, Sub-Antarctic
Biocultural Conservation Program, Chile ([Elke's Web Site](#); [Google Citations](#); [ResearchGate](#))

Dr. 03 TBD

GENERAL COURSE INFORMATION

Course Catalogue Information: BIOL 4057-001, BIOL 5057-001

Class Schedule: Fall semester. Tuesdays and Thursdays, 8:00-9:20 AM (Central Daylight/Standard Time). ***Taught face-to-face*** in room ENV 190.

Office Hours: In-person on Tuesdays and Thursdays from 9:30 to 10:30 AM (in my office: ENV 310V) or by appointment through Zoom (please contact me at Jaime.Jimenez@unt.edu).

Attendance, Participation and Students Responsibilities: Attendance is mandatory unless you are experiencing COVID-19 related symptoms, have tested positively for COVID-19 (regardless of whether or not you are exhibiting symptoms), or are in quarantine for COVID-19. Regular and punctual class attendance is expected. If you arrive late, please join the class with the less disturbance. Class attendance will always be taken. If you will not be able to attend a class, discuss this ahead of time with the instructor.

Students are responsible to prepare ahead of time, attend ***all*** lectures and discussion sessions, ask questions, and express themselves creatively and concisely in their work. Ways of earning points for class participation include being prepared to contribute positively to class discussion of the assigned readings. Contributing positively requires having read, as thoroughly as possible, understood the assigned readings, and at least being able to raise important questions if not provide definitive answers. Undergraduate students are responsible for all required readings, and graduate students are responsible for required and some supplementary readings.

If students miss a scheduled graded activity having no valid reason, a grade of zero (0) will be awarded for that examination. Authorized absences that will be considered on a case-by-case basis include religious holidays, call to active military duty, and a certified sickness by a medical professional. No exceptions will be made. Unauthorized absences will affect participation grade. Students who have a valid reason for missing an exam may PRE-ARRANGE (prior to the exam) with the instructor a time for taking the make-up exam. The instructor has the option of choosing a different test format for the make-up exams.

Cell phones will not be accepted in classes or tests. Be respectful with others, turn cell phones off and put them away prior to class. Any other wireless communication devices must be turned off or set to silent mode during class time.

ACADEMIC CONDUCT AND INTELLECTUAL PROPERTY

Class Materials: Students will have access to the class material posted online in Canvas. This information is an intellectual property of UNT or the instructor and is intended only for the use by the students in this course. Thus, it should not be used otherwise in any form. This would be a violation of the UNT Code of Student Conduct and could lead to disciplinary action.

Academic Integrity Policy: Students are responsible for reading, understanding, and knowing UNT's Academic Integrity Policy that can be found [here](#). Academic dishonesty in this class is unacceptable and will not be tolerated in any form.

SAFETY AND ACCESSIBILITY

Disability Accommodation: The Department of Biological Sciences in cooperation with the Office of Disability Accommodation, comply with the Americans with disabilities in making reasonable accommodations for qualified students with disabilities. The University of North Texas is on record as being committed to both the spirit and letter of federal equal opportunity legislation; reference Public Law 92-112– The Rehabilitation Act of 1973 as amended. With the passage of new federal legislation entitled Americans with Disabilities Act (ADA), pursuant to section 504 of the Rehabilitation Act, there is renewed focus on providing this population with the same opportunities enjoyed by all citizens. Please present your written accommodation request before the 12th class day. See also [here](#).

Drop/Withdrawal Information: The window time to drop a course without professor's approval is September 2nd to November 10th, 2023. Other Drop/Withdrawal Information and other important Academic Dates can be found [here](#). Before dropping the course, please come and discuss this with me.

MAMMALIAN ECOLOGY AND EVOLUTION

Course Description:

This course will expose students to the diverse Mammalian Class in a lecture-style format. Hands-on experience will be gained through the Mammalogy Lab (BIOL 4057-301, BIOL 5057-301). Emphasis will be on diversity, ecological roles, evolution, conservation, and the importance of mammals in human cultures. Additionally, students will learn about contemporary mammalian research techniques. There will be quizzes on required class readings/videos. Students are expected to participate actively in the course by presenting selected topics and being part of class discussions. Each student will pick a topic on which he/she will write an essay. Class grades will be determined by each student's performance in the previously described activities, three major exams, a presentation, and an essay.

Course materials will be made available online through Canvas. Students are required to check Canvas regularly for updates to the syllabus, announcements, and access to course materials.

Course Goals:

Through lectures, readings, videos, seminars and class discussions, students will develop:

- Familiarity with mammalian diversity, evolution, and ecology.
- A basic understanding of the importance of Recent mammals to world ecosystems and humans.
- Skills in academic discussions on mammalian research.
- Familiarity with mammalian case studies, recent relevant literature, and biogeography.
- An understanding of issues in mammalian conservation, research techniques, and impacts on human economies.

Readings:

Required text:

- Vaughan, T.A., J.M. Ryan, and N.J. Czaplewski. 2015. *Mammalogy*. 6th ed. Jones & Bartlett Publishers. Sudbury, Massachusetts. Available through the library as a hard copy [here](#) and as an online copy [here](#).

OR

- Feldhamer, G.A., J.F. Merritt, C. Krajewski, J.L. Rachlow & K.M. Stewart. 2020. *Mammalogy*. 5th ed. Johns Hopkins University Press, Baltimore, Maryland. Print copy available through the library [here](#).

Complementary readings:

- Lynx Nature Books. 2023. All the mammals of the world. Barcelona, Spain. For purchase [here](#).
- Eisenberg, J.F. 1983. *The mammalian radiations, an analysis of trends in evolution, adaptation and behavior*. University of Chicago Press, Chicago, Illinois. Book available [here](#).
- Kelt, D.A. and J.L. Patton. 2020. *A manual of the mammalia*. University of Chicago Press, Chicago, IL.
- Macdonald, D.W. 2009. *The Princeton encyclopedia of mammals*. Princeton University Press, Princeton. Available online [here](#).

- Martin, R.E., R.H. Pine, and A.F. DeBlase. 2011. *A manual of mammalogy: with keys to families of the world*. 3rd ed. Waveland Press, Long Grove, Illinois. Hard copy available [here](#).
- Nowak, R.M. 2018. *Walker's mammals of the world*. 1st on-line ed. Johns Hopkins University Press. Baltimore, Maryland. Available online through the library [here](#).
- Schmidly, D.J. 2004. *The mammals of Texas*. 6th ed. University of Texas Press, Austin. Printed copy [here](#).
- Wilson, D.E. and R.A. Mittermeier (eds.). 2009. *Handbook of the mammals of the world*. Vols. 1-9. Lynx Edicions, Barcelona.
- Wilson, D.E., F.R. Cole, J.D. Nichols, R. Rudran, and M.S. Foster. 1996. *Measuring and monitoring biological diversity. Standard methods for mammals*. Smithsonian Institution Press, Washington, D.C. Printed copy [here](#).

Course Evaluation:

1) Tests: First Exam: 15%, Second Exam: 15%, and Final Exam: 15%. Exams will cover all material presented in classes, including lectures, videos, paper presentations, and discussions. Exams will not be comprehensive. Graduate students will be given additional questions on each exam.

2) Quizzes: 15%. At the end of each video show, a short quiz regarding the contents of the video shown will be taken.

3) Essay/Paper: 15%. Each student will review the literature on a recent topic of mammalian biology, synthesize it, discuss findings, and provide a final section with a personal view or opinion. The document should be original and written in an essay or paper style format (Journal of Mammalogy is suggested; for manuscript style and guidelines click [here](#)), having a maximum of 3 pages for undergraduates and 6 pages for graduates, formatted as double space, font size 12, Times New Roman, and 1-inch margins (not including bibliography – 1 to 3 additional pages). Chose a Title. In the Introduction provide the context and justify the subject; next, under Methods explain where you obtained the information from. Afterwards, in the Results, develop your narrative and finish it with your personal thoughts on the subject. Finally, list the Literature Cited.

The topics should be chosen by September 18th and the final document should be turned in on December the 1st. No exceptions will be made to these deadlines. Students are encouraged to discuss their writing progress with the instructor ahead of time.

4) Paper presentations: 15%. Students will choose 1 paper from recent scientific literature (i.e., Journal of Mammalogy, Mammalian Biology, Mammal Review, etc.) on any aspect of mammal biology of broad interest. The content of these papers will be presented to the class in 7 groups of 3 undergraduate students and 2 groups of 2 graduates each. Students are expected to lead and moderate a discussion. Selected papers should be discussed with the instructor at least a week ahead of the presentation day. Please send me a copy of the paper you chose and of your presentation -at least during the day before you present by 4 PM- so that I can make these available through Canvas to the class. More detailed instructions will be provided on Canvas.

5) Participation: 10%. Students are expected to participate actively in the course and in discussions. Participation and attendance to classes will be graded here.

Be aware that the final grades will be weighted average from the Lecture (75%) and the Lab (25%) section at the end of the semester. That means you will receive a single grade for the entire course but need to approve the Lab and the Lecture to pass.

The final grade earned will correspond to the following scores, weighted by each activity: **A** = 90 - 100, **B** = 80 - 89, **C** = 70 - 79, **D** = 60 - 69, **F** = 0 - 59.

TENTATIVE COURSE PROGRAM (subject to change)

DATE	DAY	CLASS	LECTURE TOPICS	SOURCES
Aug 22	Tue	1	Introduction + Syllabus Lecture 1: My Experience Studying Mammals	
Aug 24	Thu	2	Video 1: <i>A winning design</i> + Paper Group 1	V1 + Q1: A Winning Design
Aug 29	Tue	3	Lecture 2: Mammalian Characteristics and The Science of Mammalogy	Ch. 3 Vaughan et al. Ch. 1 Feldhamer et al.
Aug 31	Thu	4	Video 2: Insect hunters + Paper Group 2	V2 + Q2: Insect Hunters
Sep 05	Tue	5	Lecture 3: Mammalian Origins and Evolution	Ch. 2 Vaughan et al. Ch. 4 Feldhamer et al.
Sep 07	Thu	6	Video 3: <i>Plant predators</i> + Paper Group 3	V3 + Q3: Plant Predators
Sep 12	Tue	7	Lecture 4: Modes of Feeding	Ch. 7 Feldhamer et al.
Sep 14	Thu	8	Video 4: <i>The opportunists</i> + Paper Group 4	V4 + Q4: The Opportunists
Sep 19	Tue	9	Lecture 5: Mammalian Diversity: Monotremes and Metatheria (Marsupials)	Ch. 5 & 6 Vaughan et al. Ch. 10 Feldhamer et al.
Sep 21	Thu	10	Lecture 6: Invited speaker 1. Dr. Ramiro D. Crego (University College Cork, Ireland): Studying mammals in two continents: from Patagonia to the African savannas.	Crego, R.D., J.O. Ogutu, H.B.M. Wells, G.O. Ojwang, D.J. Martins, P. Leimgruber & J.A. Stabach. 2020. Spatiotemporal dynamics of wild herbivore species richness and occupancy across a savannah rangeland: Implications for conservation. <i>Biological Conservation</i> . https://doi.org/10.1016/j.biocon.2020.108436
Sep 26	Tue	11	First Exam	Lectures 1-6

Sep 28	Thu	12	Video 5: <i>Social climbers</i> + Paper Group 5	V5 + Q5: Social Climbers
Oct 03	Tue	13	Lecture 7: Eutheria: Xenarthra, Pholidota, Tubulidentata and Chiroptera	Ch. 8, 10 & 15 Vaughan et al. Ch. 11, 13 & 21 Feldhamer et al.
Oct 05	Thu	14	Lecture 8: Afrosoricida, Erinaceomorpha, Soricomorpha, Macroscelidea, Scandentia, Dermoptera	Ch. 8, 11 & 14 Vaughan et al. Ch. 11, 14 & 17 Feldhamer et al.
Oct 10	Tue	15	Video 6: <i>Meet eaters</i> + Paper Group 6	V6 + Q6: Meet Eaters
Oct 12	Thu	16	Lecture 9: Primates and Carnivora	Ch. 12 & 16 Vaughan et al. Ch. 15 & 18 Feldhamer et al.
Oct 17	Tue	17	Video 7: <i>Chisellers</i> + Paper Group 7	V7 + Q7: Chisellers
Oct 19	Thu	18	Lecture 10: Rodentia and Lagomorpha	Ch. 13 Vaughan et al. Ch. 16 Feldhamer et al.
Oct 24	Tue	19	Video 8: <i>Return to the water</i> + Paper Group 8	V8 + Q8: Return to the Water
Oct 26	Thu	20	Lecture 11: Sirenia, Proboscidea, Hyracoidea, and Cetacea	Ch. 9 & 19 Vaughan et al. Ch. 12 & 20 Feldhamer et al.
Oct 31	Tue	21	Lecture 12: Invited speaker 2. Dr. Elke Schüttler: Free-ranging domestic carnivores in the Cape Horn Biosphere Reserve: perceptions of impacts.	Schüttler & Jiménez. 2022. Are tourists facilitators of the movement of free-ranging dogs? Animals 12: 3564. https://doi.org/10.3390/ani12243564
Nov 02	Thu	22	Review & Questions for Second Exam	
Nov 07	Tue	23	Second Exam	Lectures 7-12
Nov 09	Thu	24	Lecture 13: Perissodactyla and Cetartiodactyla	Ch. 17 & 18 Vaughan et al. Ch. 19 Feldhamer et al.
Nov 14	Tue	25	Lecture 14: Methods for Studying Mammals	Ch. 2 Feldhamer et al.
Nov 16	Thu	26	Lecture 15: Zoogeography	Ch. 25 Vaughan et al. Ch. 5 Feldhamer et al.
Nov 21/23	-	-	Thanksgiving Break: no classes	
Nov 28	Tue	27	Lecture 16: Conservation of Mammals	Ch. 26 Vaughan et al. Ch. 28 Feldhamer et al.

Nov 30	Thu	28	Video 9: <i>Food for thought</i> + Paper Group 9	V9 + Q9: Food for thought
Dec 05	Tue	29	Lecture 17: Invited speaker 3. TBD	TBD
Dec 07	Thu	30	Final Exam	Lectures 13-17