MAMMALIAN ECOLOGY AND EVOLUTION

BIOL 4057-001 / 5057-001

Fall 2025 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 (tentative):

Dr. TBD

Dr. TBD

Dr. 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. 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 for preparing ahead of time, attending ***all*** lectures and discussion sessions, asking questions, and expressing 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, understanding 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 on Canvas. This information is an intellectual property of UNT or the instructor and is intended only for the use by the students on 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.

Artificial Intelligence (AI) Policy: The use of generative AI tools in the completion of assignments, essays, or any other course-related content is strictly prohibited as all work should be completed by the students themselves. Using generative AI tools to complete course-related content will result in an automatic zero for any assignment, coursework, etc.

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 August 29th to November 7th, 2025. Other Drop/Withdrawal Information and other important

Academic Dates can be found here. Before dropping out of 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 4057-301/302, BIOL 5057-301/302). 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 an online copy here.
  OR
- Feldhamer, G.A., J.F. Merritt, C. Krajewski, J.L. Rachlow, and K.M. Stewart. 2020. *Mammalogy*. 5th ed. Johns Hopkins University Press, Baltimore, Maryland. Print copy available through the library here.

Complementary readings:

- Caire, W., B.P. Glass, M.A. Mares & J.D. Tyler. 1989. Mammals of Oklahoma. University of Oklahoma Press, Norman, OK. Available through the library here.
- Caire, W., L.S. Loucks & M.L. Haynie. 2024. Mammals of Oklahoma. 2nd ed. University of Oklahoma Press, Norman, OK. 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. For purchase here.
- Lynx Nature Books. 2023. *All the mammals of the world*. Barcelona, Spain. For purchase here.
- 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 or purchase the 7th ed. 2016 here.
- Wilson, D.E. and R.A. Mittermeier (eds.). 2009. *Handbook of the mammals of the world*. Vols. 1-9. Lynx Edicions, Barcelona. For purchase here.
- 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 through the library 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). Choose 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. Yiu can call this latter part Discussion. Finally, list the Literature Cited. Here, list the references of your citations in the text.

The topics should be chosen by **September the 16th** and the final document should be turned in by **December the 3rd**. 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 4 undergraduate students and in 2 groups of 1 graduate student each. Students are expected to lead and moderate discussions. 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 and make suggestions. More detailed instructions will be provided on Canvas.

5) Participation and Attendance: 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 weighed average from the Lecture (75%) and the Lab (25%) sections 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. Rounding up to the next integer will be from 0.45. No exceptions will be made.

TENTATIVE COURSE PROGRAM (subject to change)

DATE	DAY	CLASS	LECTURE TOPICS	SOURCES
Aug 19	Tue	1	Introduction + Syllabus **Lecture 1**: My Experience Studying Mammals	Syllabus in CANVAS JaimeEJimenez.com
Aug 21	Thu	2	**Video 1**: *A winning design* + **Paper Group 1**	V1 + Q1: A Winning Design
Aug 26	Tue	3	**Lecture 2**: Mammalian Characteristics and The Science of Mammalogy	Ch. 3 Vaughan et al. Ch. 1 Feldhamer et al.
Aug 28	Thu	4	**Video 2**: Insect hunters + P**aper Group 2**	V2 + Q2: Insect Hunters
Sep 02	Tue	5	**Lecture 3**: Mammalian Origins and Evolution	Ch. 2 Vaughan et al. Ch. 4 Feldhamer et al.
Sep 04	Thu	6	**Video 3**: *Plant predators* + **Paper Group 3**	V3 + Q3: Plant Predators
Sep 09	Tue	7	**Lecture 4**: Modes of Feeding	Ch. 7 Feldhamer et al.
Sep 11	Thu	8	**Video 4**: *The opportunists* + **Paper Group 4**	V4 + Q4: The Opportunists
Sep 16	Tue	9	**Lecture 5**: Mammalian Diversity: Monotremes and Metatheria (Marsupials)	Ch. 5 & 6 Vaughan et al. Ch. 10 Feldhamer et al.
Sep 18	Thu	10	**Lecture 6**: **Invited speaker 1**.	TBD
Sep 23	Tue	11	***First Exam***	Lectures 1-6
Sep 25	Thu	12	**Video 5**: *Social climbers* + **Paper Group 5**	V5 + Q5: Social Climbers

Sep 30	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 02	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 07	Tue	15	**Video 6**: *Meet eaters* + **Paper Group 6**	V6 + Q6: Meet Eaters
Oct 09	Thu	16	**Lecture 9**: Primates and Carnivora	Ch. 12 & 16 Vaughan et al. Ch. 15 & 18 Feldhamer et al.
Oct 14	Tue	17	**Video 7**: *Chisellers* + **Paper Group 7**	V7 + Q7: Chisellers
Oct 16	Thu	18	**Lecture 10**: Rodentia and Lagomorpha	Ch. 13 Vaughan et al. Ch. 16 Feldhamer et al.
Oct 21	Tue	19	**Video 8**: *Return to the water* + **Paper Group 8**	V8 + Q8: Return to the Water
Oct 23	Thu	20	**Lecture 11**: Sirenia, Proboscidea, Hyracoidea, and Cetacea	Ch. 9 & 19 Vaughan et al. Ch. 12 & 20 Feldhamer et al.
Oct 28	Tue	21	**Lecture 12**: **Invited speaker 2.**	TBD
Oct 30	Thu	22	Review & Questions for Second Exam	
Nov 04	Tue	23	***Second Exam***	Lectures 7-12
Nov 06	Thu	24	**Lecture 13**: Perissodactyla and Cetartiodactyla	Ch. 17 & 18 Vaughan et al. Ch. 19 Feldhamer et al.
Nov 11	Tue	25	**Lecture 14**: Methods for Studying Mammals	Ch. 2 Feldhamer et al.
Nov 13	Thu	26	**Lecture 15**: Zoogeography	Ch. 25 Vaughan et al. Ch. 5 Feldhamer et al.
Nov 18	Tue	27	**Lecture 16**: Conservation of Mammals	Ch. 26 Vaughan et al. Ch. 28 Feldhamer et al.
Nov 20	Thu	28	**Lecture 17: Invited speaker 3.**	
Nov 24-30	-	-	Thanksgiving Break: no classes	
Dec 02	Tue	29	**Video 9**: *Food for thought* + **Paper Group 9**	Video 9: *Food for thought* + Paper Group 9
Dec 04	Tue	30	***Final Exam***	Lectures 13-17