

MW 11:30 – 1 pm

SAC 5.172

Instructor: Dr. Carrie Veilleux (“VAY-you”)
carrie.veilleux@utexas.edu
pronouns: she/her/hers

office hours: M 9–10am, W 1-2pm, or by appt
office: SAC 5.132

COURSE DESCRIPTION AND OBJECTIVES

The purpose of this course is to provide an overview of how the basic principles of ecology (the study of how organisms interact with their environment) can help us understand variation in primate biology and behavior. Using a comparative and evolutionary approach, we will first identify variation in ecological traits across primate species. Then we will explore and how this variation can influence primate sociality, life history, reproductive strategies, sensory systems, animal communities, and cognition. Because most primate species are threatened, endangered, or even facing extinction, we will also explore how aspects of ecology are used in primate conservation.



Objectives: After taking this course you should be able to:

- 1) Understand what it means to take an evolutionary approach to thinking about primate biology and behavior.
- 2) Describe the variation in primate ecological traits (e.g., diet, habitat).
- 3) Be able to critically read and discuss scientific papers.
- 4) Be able to articulate evolutionary hypotheses for a given pattern of primate behavior or biology and to design and critique tests of those hypotheses using logic and evidence.

COURSE FORMAT AND REQUIREMENTS

This course meets twice a week (Mon & Wed) and will be structured around interactive lectures and dedicated discussion days or partial days where you will be expected to come prepared to discuss the assigned readings. There will also be several in-class group activities, some of which will result in assignments to be submitted the next week. Thus, participation is an important part of your grade. It is difficult to participate if you are not present in class and so attendance is highly recommended and will be recorded.

Prerequisites: ANT301 (or permission of instructor)

Readings: There is no assigned textbook. All readings will be posted in Canvas or through library e-journals. Make sure to check Canvas regularly. You will be expected to print a scientific poster at PCL at the end of the semester (\$20, BevoBucks accepted).

Classroom expectations:

- I expect you to come to class prepared by having done the readings.
- I expect you to treat others in the class with respect. This includes putting phones on silent and no texting during class.

In turn, I will:

- Post assigned readings and assignments to Canvas in a timely manner (at least 2 weeks ahead of time)
- Return assignments/exams in a timely manner (~within one week).

ASSIGNMENTS AND GRADING POLICIES

Grades for the semester will be based on the following components:

| | |
|---|-----|
| Exam 1 | 20% |
| Exam 2 | 20% |
| Research proposal project | 20% |
| In class assignments & activities | 15% |
| Informal reading responses | 10% |
| Participation, discussion, & attendance | 15% |

Final grades will be calculated using the following scale (plus/minus will be applied):

A = 100-89.5 **B** = 89.49-79.5 **C** = 79.49-69.5 **D** = 69.49-59.5 **F** = < 59.49

Exams (40%). There will be 2 **non-cumulative** exams during class time which will cover all lecture material and assigned readings. Exams will be objective format (e.g. true/false, multiple choice, fill-in-the-blank, and short-answer) as well as 1 long short-answer question. Possible questions for long short-answers will be posted before the exam and the actual question will be chosen exam day. Study guides will be posted on Canvas 3-5 days before the exam, but you will need to complete an online practice quiz to gain access.

Make-up exams will be given **ONLY** with documented proof of dire emergency or illness. You must contact me within three days of a missed exam to qualify for a make-up.

Research proposal project (20%). You will be expected to become an expert on the ecology of a primate species of your choice and design a research proposal for your species relating to one of the major topics discussed in class. You will present your information on the ecology of your species, your proposed research question and hypotheses, and a brief description of your proposed methods in a scientific poster format at the end of the semester. More information will be provided separately.

In class activities (15%). There will be multiple in-class activities throughout the semester, including 2 all-day in class activities that will involve writing and preparing material before class and/or submitting an individual summary of the activity done by your group ("Designing a research study" and "Teaching a sensory ecology question"). More information will be provided separately.

Informal reading responses (10%). There will be 7 reading responses over the semester (~up to 1 typed page each). Responses are due by 11:59 PM on the day prior to the class discussion and are submitted through Canvas. Late assignments will be accepted until the start of class but the grade will be docked 10%. After starting class, no late assignments will be accepted as they are the basis for class discussion.

Participation, discussion, and attendance (15%). Participation is an important component of this class, and you are expected to come prepared having done the readings. All lectures will be interactive and in most cases will involve in-class activities, where you will be asked to think about material we have been working through and to prepare questions or responses to prompts. Your written responses (for example, "one-minute-essays" on concepts that we have covered) will be collected and used to assess attendance and participation. On days where articles have been assigned for class discussion, you are expected to come with questions prepared and participate in discussions. Attendance will be taken randomly throughout the semester. Missed quizzes/in-class activities cannot be made up.

Late work. Except where discussed previously in the Assignments and Grading Policies or specific assignment handouts, late work will be accepted but will incur a penalty of 10% for every day late.

Regrading Policy: Grade disputes must be turned in to me in writing within 1 week of when the exam is returned. The student must include a 1 page explanation per question of why (s)he thinks that his/her answer is correct. Simple errors in addition can be corrected immediately. Students wishing to appeal a grade for one of the writing assignments, have 1 week to appeal their grade by turning in a 1 page explanation of why (s)he thinks that his/her paper should be regraded.

COURSE SCHEDULE*

*subject to change

PART I: INTRODUCTION TO PRIMATE STUDIES AND EVOLUTIONARY ECOLOGY

Date, Topic and Readings

Assignments

W Aug 29: What is a primate?

Kirk EC. 2013. Characteristics of crown primates. *Nature Education Knowledge* 4:3.

M Sep 3: Labor Day – no class

W Sep 5: A survey of primate diversity

Fleagle (1999) Chapter 3 (p 47-63)

M Sep 10: Evolutionary theory

Strier (2016) Chapter 4 (pp 101-122)

Zinner D, Roos C. 2014. So what is a species anyway? A primatological perspective. *Evolutionary Anthropology* 23: 21–23

W Sep 12: Species, niches, convergence & phylogeny (discussion)

*Kamilar JM, Cooper N. 2013. Phylogenetic signal in primate behaviour, ecology and life history. *Phil Trans R Soc B* 368: 20120341.

*Kamilar JM, Muldoon KM. 2010. The climatic niche diversity of Malagasy primates: A phylogenetic perspective. *PLOS ONE* 5: e11073.

*Kolbe JJ, Leal M, Schoener TW, Spiller DA, Losos JB. 2012. Founder effects persist despite adaptive differentiation: a field experiment with lizards. *Science* 335:1086–1089.

*Reading
Response
#1

M Sep 17: Studying primates: methods

Campbell et al. (2011), *Primates in Perspective* Chapter 21 (p 358-367)

Vogel & Dominy (2011), *Primates in Perspective* Chapter 22 (p 367-377)

PART II: BASICS OF PRIMATE ECOLOGY

W Sep 19: Ethics of primate fieldwork (discussion) + Primate habitats

Fedigan KM. 2010. Ethical issues faced by field primatologists: asking the relevant questions. *American Journal of Primatology* 72: 754–771

(Biomes + Habitats): Richard (1985) Chapter 2 (p 44-66)

*Reading
Response
#2

M Sep 24: Habitats, microhabitats, and activity pattern

Curtis DJ, Rasmussen MA. 2006. The evolution of cathemerality in primates and other mammals: a comparative and chronoecological approach. *Folia Primatologica* 77: 178–193.

Ganzhorn JU. 1989. Niche separation of seven lemur species in the eastern rainforest of Madagascar. *Oecologia* 79: 279–286.

W Sep 26: Predation and anti-predator strategies

Fichtel C (2012) *Evolution of Primate Societies* Chapter 8 (p 169-194)

*Isbell LA, Bidner LR, Van Cleave EK, Matsumoto-Oda A, Crofoot MC. 2018. GPS-identified vulnerabilities of savannah-woodland primates to leopard predation and their implications for early hominins. *Journal of Human Evolution* 118: 1-13.

*Wheeler BC. 2010. Production and perception of situationally variable alarm calls in wild tufted capuchin monkeys (*Cebus apella nigritus*). *Behavioral Ecology & Sociobiology* 64: 989-1000

*Reading
Response
#3

M Oct 1: Primate foods and dietary strategies

Lambert (2011) *Primates in Perspective* Chapter 33 (p 512-522)

W Oct 3: Spatiotemporal variation in foods & feeding competition

Lambert JE, Rothman JM. 2015. Fallback foods, optimal diets, and nutritional targets: primate responses to varying food availability and quality. *Annual Review of Anthropology* 44: 493-512.

M Oct 8: Diet, fallback foods, & nutritional ecology (discussion)

*Ganzhorn JU. 1989. Primate species separation in relation to secondary plant chemicals. *Human Evolution* 4: 125-132.

*Yamigawa J, Basabose AK. 2009. Fallback foods and dietary partitioning among *Pan* and gorilla. *Am. J. Physical Anthropol* 140: 739-750.

*Oelze VM, Head JS, Robbins MM, Richards M, Boesch C. 2014. Niche differentiation and dietary seasonality among sympatric gorillas and chimpanzees in Loango National Park (Gabon) revealed by stable isotope analysis. *Journal of Human Evolution* 66: 95-106.

*Rothman JM, Chapman CA, Struhsaker TT, Raubenheimer D, Twinomugisha D, Waterman PG. 2015. Long-term declines in nutritional quality of tropical leaves. *Ecology* 96: 873-878

*Reading
Response
#4

W Oct 10: Parasites and disease ecology

Nunn et al. (2006) Chapter 33 (pp 57-97).

PART II: INTEGRATING THE BASICS – SPECIAL TOPICS IN PRIMATE ECOLOGY**M Oct 15: Group size and sociality**

Schülke & Ostner (2012) *Evolution of Primate Societies* Chapter 9

W Oct 17: *** Exam 1 (covering Part I and Part II topics) *********M Oct 22: Group size and socioecological models discussion**

*Sterck EHM, Watts DP, van Schaik CP. 1997. The evolution of female social relationships in nonhuman primates. *Behavioral Ecology and Sociobiology* 41: 291-309.

*Snaith TV, Chapman CA. 2007. Primate group size and interpreting socioecological models: do folivores really play by different rules? *Evolutionary Anthropology* 16: 94-106.

*Koenig A, Scarry CJ, Wheeler BC, Borries C. 2013 Variation in grouping patterns, mating systems and social structure: what socio-ecological models attempt to explain. *Phil Trans Roy Soc B* 368: 20120348.

*Reading
Response
#5

W Oct 24: Designing a study – why does my primate live in groups?

Ecological
Profile by
10/26

M Oct 29: Life history and reproductive ecology

Emery Thompson M. 2013. Reproductive ecology of chimpanzees. *American Journal of Primatology* 75: 222-237.

W Oct 31: Microbiomes and ecology

Clayton JB, Gomez A, Amato K, Knights D, Travis DA, et al. 2018. The gut microbiome of nonhuman primates: lessons in ecology and evolution. *American Journal of Primatology* 80: e22867

Activity 1
Response

M Nov 5: Cognitive ecology

- *Di Fiore A, Suarez SA. 2009. Route-based travel and shared routes in sympatric spider and woolly monkeys: cognitive and evolutionary implications. *Animal Cognition* 10: 317-329.
- *Huebner F, Fichtel C, Kappeler PM. 2018. Linking cognition with fitness in a wild primate: fitness correlates of problem solving performance and spatial learning ability. *Phil Trans Roy Society B* 373: 20170295.
- *Melin AD, Young HC, Mosdossy KN, Fedigan LM. 2014. Seasonality, extractive foraging and the evolution of primate sensorimotor intelligence. *Journal of Human Evolution* 71: 77-86.

*Reading
Response
#6

W Nov 7: Sensory ecology

- Melin AD, Veilleux CC. In Press. Primate senses: finding and evaluating food. In *Primate diet and nutrition: Needing, finding, and using Food*, editors JE Lambert & J Rothman.

M Nov 12: Proposal Writing and Workshop**W Nov 14: In class activity: teaching a sensory ecology question**

Activity 2

M Nov 19: Interactions with plants

- Russo & Chapman (2011) *Primates in Perspective* Chapter 34.

W Nov 21: Thanksgiving Break**M Nov 26: Primate communities**

- Kamilar JM, Beaudrot L. 2013. Understanding primate communities: Recent developments and directions. *Evol Anthropol* 22: 174-185

W Nov 28: Conservation

- Strier (2017) Chapter 12 (pp 373-397)

Poster pdfs
due 11/30

M Dec 3: Poster Presentations**W Dec 5: Conservation II & Social Media**

- *Estrada et al. 2017. Impending extinction crisis of the world's primates: Why primates matter. *Science Advances* 3: e1600946.
- *Nekaris KAI, Campbell N, Coggins TG, Rode EJ, Nijam V. 2013. Tickled to death: Analysing public perceptions of 'cute' videos of threatened species (Slow Lorises – *Nycticebus* spp.) on Web 2.0 sites. *PLoS ONE* 8(7): e69215
- *Papworth SK et al. 2015. Quantifying the role of online news in linking conservation research to Facebook and Twitter. *Conservation Biology* 29: 825-833.

*Reading
Response
#7

M Dec 10: *** Exam 2 (covering Part III) *********COURSE POLICIES**

Statement on Learning Success and Accessibility. Your success in this class is important to me. We will all need accommodations because we all learn differently. If there are aspects of this course that prevent you from learning or exclude you, please let me know as soon as possible. Together we'll develop strategies to meet both your needs and the requirements of the course. I also encourage you to reach out to the student resources available through UT (see below).

In compliance with the UT Austin policy and equal access laws, I am available to discuss appropriate academic accommodations that may be required for students with disabilities. Requests for academic accommodations are to be made during the 1st 3 weeks of the semester, except for unusual circumstances, so arrangements can be made. Students are encouraged to register with Student Disability Services to verify their eligibility for appropriate accommodations (see below).

Exam taking policies. On exam days, students will only be allowed to take a pen/pencil to their seat. All backpacks, book bags, purses, phones, etc. must be left at the front of the classroom. Hats with rims are not permitted to be worn.

Social media/discussion groups. Students are welcome to participate in online forums for study and discussion (e.g., a course Facebook page). However, Dr. Veilleux must be invited and permitted to join any such forum in order to monitor content. *Please note* that sharing information about an exam with a student who has not yet taken an exam will be considered cheating, regardless of the means by which the information is shared (e.g., verbally, on a web page, via email, via text, etc.). Students who observe cheating via electronic media are encouraged to inform Dr. Veilleux.

Absences. Attendance will be taken randomly through the semester, and attendance is necessary for in class activities. The only absences that will be considered excused are for religious holidays or extenuating circumstances due to an emergency.

Personal Pronoun Preference. Professional courtesy and sensitivity are especially important with respect to individuals and topics dealing with differences of race, culture, religion, politics, sexual orientation, gender, gender variance, and nationalities. Class rosters are provided to the instructor with the student's legal name. I will gladly honor your request to address you by a name different than what appears on the roster, and by the gender pronouns you use. Please advise me of this preference early in the semester so that I may make appropriate changes to my records.

Religious Holy Days. Religious holy days sometimes conflict with class and examination schedules. If you miss an examination, work assignment, or other project due to the observance of a religious holy day, you will be given an opportunity to complete the work missed within a reasonable time after the absence. **It is the policy of The University of Texas at Austin that you must notify each of your instructors at least fourteen (14) days prior to the classes scheduled on dates you will be absent to observe a religious holy days.**

Academic Integrity. Each student in the course is expected to abide by the University of Texas Honor Code: *"As a student of The University of Texas at Austin, I shall abide by the core values of the University and uphold academic integrity."* **Plagiarism is taken very seriously at UT.** Therefore, if you use words or ideas that are not your own (or that you have used in previous class), you must cite your sources. Otherwise you will be guilty of plagiarism and subject to academic disciplinary action, including failure of the course. You are responsible for understanding UT's Academic Honesty and the University Honor Code which can be found at the following web address: http://deanofstudents.utexas.edu/sjs/acint_student.php

In this class, cheating and plagiarism includes (but is not limited to):

- Copying from another student's exams, in class assignment, or from any electronic device.
- Collaborating, without authorization, with another person during an exam or in preparing academic work (e.g., summaries for In Class Activity assignments or Ecological Profiles).
- Copy/pasting information from sources into your assignments (you **MUST** use your own words to paraphrase the information and cite the source)

Any student found cheating (including plagiarizing) will receive a zero for the assignment, be dropped 1 letter grade for the final course grade, and be referred to the Dean of Students.

IMPORTANT INFORMATION AND RESOURCES

Q Drop Policy. If you want to drop a class after the 12th class day, you'll need to execute a Q drop before the Q-drop deadline, which typically occurs near the middle of the semester. Under Texas law, you are only allowed six Q drops while you are in college at any public Texas institution. For more information, see: <http://www.utexas.edu/ugs/csacc/academic/adddrop/qdrop>

University Resources for Students

Services for Students with Disabilities. This class respects and welcomes students of all backgrounds, identities, and abilities. If there are circumstances that make our learning environment and activities difficult, if you have medical information that you need to share with me, or if you need specific arrangements in case the building needs to be evacuated, please let me know. I am committed to creating an effective learning environment for all students, but I can only do so if you discuss your needs with me as early as possible. I promise to maintain the confidentiality of these discussions. If appropriate, also contact Services for Students with Disabilities, 512-471-6259 (voice) or 1-866-329- 3986 (video phone). <http://ddce.utexas.edu/disability/about/>

Counseling and Mental Health Center. Do your best to maintain a healthy lifestyle this semester by eating well, exercising, avoiding drugs and alcohol, getting enough sleep and taking some time to relax. This will help you achieve your goals and cope with stress. All of us benefit from support during times of struggle. You are not alone. There are many helpful resources available on campus and an important part of the college experience is learning how to ask for help. Asking for support sooner rather than later is often helpful.

If you or anyone you know experiences any academic stress, difficult life events, or feelings like anxiety or depression, I strongly encourage you to seek support. <http://www.cmhc.utexas.edu/individualcounseling.html>

The Sanger Learning Center. Did you know that more than one-third of UT undergraduate students use the Sanger Learning Center each year to improve their academic performance? All students are welcome to take advantage of Sanger Center's classes and workshops, private learning specialist appointments, peer academic coaching, and tutoring for more than 70 courses in 15 different subject areas. For more information, please visit <http://www.utexas.edu/ugs/slc> or call 512-471-3614 (JES A332).

Undergraduate Writing Center: <http://uwc.utexas.edu/>

Libraries: <http://www.lib.utexas.edu/>

ITS: <http://www.utexas.edu/its/>

Student Emergency Services: <http://deanofstudents.utexas.edu/emergency/>

Important Safety Information – Behavior Concerns Advice Line:

If you have concerns about the safety or behavior of fellow students, TAs or Professors, call BCAL (the Behavior Concerns Advice Line): 512-232-5050. Your call can be anonymous. If something doesn't feel right – it probably isn't. Trust your instincts and share your concerns.

Title IX Reporting. Title IX is a federal law that protects against sex and gender-based discrimination, sexual harassment, sexual assault, sexual misconduct, dating/domestic violence and stalking at federally funded educational institutions. UT Austin is committed to fostering a learning and working environment free from discrimination in all its forms. When sexual misconduct occurs in our community, the university can:

1. Intervene to prevent harmful behavior from continuing or escalating.
2. Provide support and remedies to students and employees who have experienced harm or have become involved in a Title IX investigation.
3. Investigate and discipline violations of the university's relevant policies.

Faculty members and certain staff members are considered "Responsible Employees" or "Mandatory Reporters," which means that they are required to report violations of Title IX to the Title IX Coordinator. **I am a Responsible Employee and must report any Title IX related incidents** that are disclosed in writing, discussion, or one-on-one. Before talking with me, or with any faculty or staff member about a Title IX related incident, be sure to ask whether they are a responsible employee. If you want to speak with someone for support or remedies without making an official report to the university, email advocate@austin.utexas.edu For more information about reporting options and resources, visit titleix.utexas.edu or contact the Title IX Office at titleix@austin.utexas.edu.