Anthropology 348
PRIMATE BEHAVIORAL ECOLOGY, 3 credits
Spring, 2021

Instructor: Dr. Erin R. Vogel

Office: Bio 209; Phone: 848-932-9277
Office Hours: Monday 2:30-4:00 or by appointment
http://www.rci.rutgers.edu/~ev140/ervogel/

Lectures: M-Th 10:55-12:15 am, Online Zoom

E-mail: erin.vogel@rutgers.edu
For emails put : "Anth 348" as subject

PREREQUISITE: Anthropology 212 (can be a co-requisite) or permission of the instructor

COURSE DESCRIPTION AND OBJECTIVES:

This course focuses on the interface between the behavior and ecology of the Order Primates (strepsirrhines, monkeys, apes, plus *Homo sapiens*). The theoretical framework is comparative and evolutionary, and the levels of analysis are multiple: individual, family, group, population, and species. We will examine how the basic principles of animal ecology can help us understand primate behavior. We will look at a wide range of primates from a comparative perspective as we explore primate habitats, diets, life histories, and communities, as well as the concept of the niche, environmental influences on reproductive and social strategies, plant-animal interactions, cognitive ecology, and much more. Because most primate species are threatened, endangered, or even facing extinction, we will also focus on how various aspects of ecology are used in the conservation of primates. I will draw heavily on field studies of primates and emphasize their behavior in natural environmental and social settings.

The learning goals of the course are:

1) to gain an understanding of principles of animal behavior by using primates as a model
2) to understand how to think "functionally" about problems in biology; in other words, to use the concept of natural selection to explain variation in primate behavior
3) to understand variation in behavior and how ecology influences this variation in living primates
4) to use the comparative approach to better understand why primate societies differ
5) to demonstrate proficiency using current methods in primate behavior, including library research skills.
6) to express yourself knowledgably and proficiently in writing about central issues in primatology.

7) to express themselves knowledgably and proficiently in speaking about central issues in primatology

REQUIRED TEXT

1) Strier, K.B. 2017. Primate Behavioral Ecology, 5th Edition. Prentice Hall, Boston. You must have the 5th edition of this text book.

In addition to this textbook, students will be occasionally asked to read relevant articles from scientific journals and book chapters from other texts (e.g., Fleagle) to support the topics discussed in class. **These articles will be announced during the week prior to the reading, and made available on CANVAS on the course web site**. I will also use CANVAS to post lecture notes (before the lecture when possible), important notices for the class, and grades. Thus, it is YOUR responsibility to check CANVAS regularly for readings and announcements.

Optional Texts (Chapters will be available on SAKAI)

Mitani, J.C. et al. 2012. The Evolution of Primate Societies. University of Chicago Press.

Fleagle, J.G. (1999) *Primate Adaptation and Evolution*, 2nd edition. San Diego: Academic Press.

Campbell et al. 2011. *Primates in Perspective*. Oxford University Press. 2nd edition.

Grading

Your final grade depends upon two examinations plus a term paper/ complete literature search and review (I will hand out a separate assignment page describing your term paper). You will also have a writing assignment called "Evolve a Primate" (see below). In addition, each student in the class will discuss and hand in a review of one article from the week's topic that I assign (described below). Each exam will require you to understand how and why primates evidence particular behaviors in varying environmental contexts.

Mid-term exam (3/1)	25%
Writing Assignment (2/24 due date)	15%
Article discussion/review – assigned each week	15%
Term Paper – (4/19 due date)	20%
Final Exam - TBA	25%

RESOURCES
Primatological journals are available in the library and most can be downloaded from the Rutgers library website.

PRIMARY RESOURCES
There are 4 mainstream journals in primatology, two secondary ones, and several other journals that cover information regarding primates. Between the Science Library and personal collections, these are well covered at Rutgers University:
American Journal of Primatology ; Folia Primatologica; International Journal of Primatology; Primates ;American Journal of Physical Anthropology
Journal of Human Evolution ; Animal Behaviour ; Behavioral Ecology and Sociobiology Behavioral Ecology ; Science; Nature; Biology Letters; Journal of Human Evolution

And the list goes on……
To search for sources, you can also use Web of Science or simple search on google scholar, which can both be accessed from the Rutgers Library web site. It is easy, comprehensive, and user-friendly.

CLASSROOM ETIQUETTE (Obviously this does not really hold during the pandemic and with online classes)

Attend all lectures. Reading, talking, eating, text-messaging on cell phone, leaving or packing up to leave before the professor has dismissed the class are inappropriate classroom behaviors & disruptive to other students. If for some reason you know that you will need to leave lecture early, let me know before class begins, *sit near the door*, & leave quietly & unobtrusively. If you come to class late, be sure to enter quietly & take care not to disturb the class in progress. Also, please make sure that your watch alarms, pagers, & cell phones do not go off during class.

Given that we are all remote this term – none of this really counts above. I will record lectures and post them for you and post the lecture slides. These are tough times, and I will do my best to help you if you cannot attend all lectures. I will not take attendance this year.

Policy Regarding Missed Exams
Generally, makeup examinations are not given. If you would like to be considered for a makeup examination, the following three conditions must be met:

1. You must have a legitimate excuse for missing the original exam, e.g., illness, family emergency.
2. You must inform me by phone or email within **48 hrs** before or after the scheduled exam date that you cannot take the exam. My phone has voice mail, so you can leave a message.
3. Within a **week** of the missed examination, you must provide me with a Physician's letter (for cases of illness) or Dean's Letter of Absence (for other cases) confirming

that you had a legitimate reason to miss the examination. Note: Deans do *not* provide letters for minor problems. Thus, you need to have a major reason for missing the exam.

If all 3 of the above conditions apply, then you can do a makeup exam (either written, oral, or both)

It's ***your* responsibility to *note the date & time of all exams, including the final, & to plan accordingly*.** The dates & times are on the University webpage for Schedule of Final Exams (http://scheduling.rutgers.edu/). If you miss the exam, or any part of it, because you thought it was given on a different day or at a different time, you will not receive extra time or a make-up exam. So, take note now & mark your calendar, iPod, Blackberry, mobile phone, etc.

My computer crashed and I lost my homework!
Computer glitches (such as computers that die, hard disks that crash, flash drives that are lost, etc) will *not* be accepted as excuses for failure to do assignments on time, to study for exams, etc. It is *your* responsibility to ensure that everything you do on a computer is ***properly & frequently backed up*** so that failure of a computer has *no* effect on your academic performance.

Cell Phones
Phones must be ***turned off before entering*** lecture & exams. Phones that are on during exams potentially constitute an academic integrity issue.

Academic Integrity (http://academicintegrity.rutgers.edu/)
Rutgers has zero tolerance for cheating, plagiarism, etc. Consult the above webpage to learn more about what constitutes a violation of academic integrity and what sanctions are taken against violators.

ASSIGNMENTS and DUE DATES:

PBE= Primate Behavioral Ecology (Strier)
PIP = Primate in Perspective (Campbell et al)
PAE= Primate Adaption and Evolution (Fleagle)

(both PIP and PAE readings will be put on SAKAI)

Module1 (January 21)

Lecture 1: *Introductory remarks; Primate studies; What is a primate? (*PBE: Chapter 1)

Module 2 (January 25, 28)

Lecture 2: *Primate Taxonomy and Diversity* (PBE Chapter 2 and appendix); **Online**

readings Fleagle Ch 4-7 (uploaded to Canvas)

Lecture 3: *Primate Taxonomy and Diversity* (PBE Chapter 3 and Appendix; **Online readings** Fleagle Ch 4-7)

Module 3 (Feb 1, 4)

Lecture 4: *Kin Selection and Reciprocal Altruism; Individual Strategies* (PBE: Ch 4)
Readings to discuss: Emery Thompson, 2019; Huchard and Pechouskova, 2014; Jaeggi and Gurven, 2013.

Lecture 5: *Sexual Selection and Sexual Dimorphism* (PBE: Ch. 5)
Readings to discuss: Cassini 2020; Clutton-Brock 2017; Peterson and Higham, 2020.

Module 4 (Feb 8, 11)

Lecture 6: *Mating Patterns/Female Strategies* (PBE Ch. 5; online reading Altmann J and Albert SC (2003))

Lecture 7: *Mating Patterns/Male Strategies* (PBE Ch. 5; **Online reading** Altmann J and Albert SC (2003); Ostner and Schulke (2014); Fernandes Duque, 2016

Module 5 (Feb 15, 18)

Lecture 8: *Diet, food quality, and nutrition* (PBE Ch. 6; **Online readings**: Conklin-Brittain et al, 2007. Rothman et al, 2011; Vogel et al., 2016)

Guest Lecture Dr. Jessica Rothman (Hunter College) – Primate nutritional ecology

Module 6: (Feb 22, 24) ****Evolve a primate assignment due February 24!****

Lecture 9: *Temporal and Spatial Distribution of Food and Their Effects on Behavior* (PBE Ch. 6; Online readings: Pruetz JD and Isbell LA. 2000. BES; Vogel and Janson, 2007, Markham and Gesquiere, 2017; Kunz et al, 2020.

Lecture 10: *Group Living and Predation: why live in groups?* **Online readings:** Goldsmith. 1995; Chapman et al. 1995

Module 7: (March 1, 4)

March 1: ******MIDTERM EXAM******

Lecture 11: *Ecology of Female Social Relationships Part 1* (PBE Ch.7) **Online readings:** Sterck et al., 1997; Pruetz JD and Isbell LA. 2000; van Schaik 1989 **;** Koenig, 2002; Vogel and Janson, 2007; Bergstrom et al, 2020; Grueter et al, 2018)

Module 8: (March 8, 11) ****Term Paper Outline and Lit Review Due March 11****

Lecture 12: *Ecology of Female Social Relationship Part 2* (PBE Ch.7) **Online readings:** Sterck et al., 1997; Pruetz JD and Isbell LA. 2000; van Schaik 1989 **;** Koenig, 2002 Vogel and Janson, 2007.

Lecture 13: *Male Strategies, Ecology, and Social Relationships* (PBE Ch. 8; **Online readings:**
Mitani et al. 2002 **;** van Schaik 1996**;** Crouse et al, 2019; Ostner and Sckulke, 2014; Swedell et al., 2014)

******Spring Break March 13-March 21******

Module 9: (March 22, 25)

Lecture 14: *Male Strategies: Infanticide* (**Online readings:** Borries 1999; Hrdy et al. 1995**;** Sussman et al 1995**;** van Schaik and Kappeler 1997; Alvarez et al, 2015; Palombit, 1999, 2000, 2003, 2015)

Lecture 15: *Life History Theory and Primates* (PBE Ch. 9; **Online readings:** PIP Ch. 25*;* Charnov and Berrigan. 1993; Janson and van Schaik 1993; Purvis et al, 2003; Thompson and Cords, 2017; Campos et al, 2017)

Module 10: (March 29, April 1)

Lecture 16: *Primate Development and Parent-offspring Conflict* (PBE Ch. 9; **Online readings:** Corley et al 2017; Lu et al, 2019; Pave et al, 2015)

Lecture 17: Guest Lecturer Dr. Shauhin Alavi (Max Plank Institute of Movement Ecology) - *Primate Cognitive Ecology* (PEB Ch. 10; **Online readings:** Janson and Byrne, 2007

Module 11: (April 5, 8)

Lecture 18: *Primate Culture* (readings to be announced; Galef 2004**;** Laland 2006; Whiten et al, 1999; Whiten and van Schaik 2007)

Lecture 19: *Community Ecology* (PBE Ch. 11; **Online Reading:** Janson CH and Chapman CA.1999)

Module 12: (April 12, 15)

Lecture 20: *Primate Conservation Biology Part 1* (PBE Ch. 12)

Lecture 21: *Primate Conservation Biology Part 2* (PBE Ch. 12)

Module 13: (April 19, 22) ****Term Paper Due April 19th****

Lecture 22: Guest lecturer Rebecca Brittain (Doctoral student; Rutgers University): Primate gut micriobiome

Lecture 23**:** *Field Methods in Primate Behavior: Behavior and Ecology; Designing a research project* (**Online Readings**: PIP Ch. 21, 22)

Module 14: (April 26, 30)

Lecture 24: *Field Methods in Primate Behavior: Endocrinology and Genetics* (**Online Readings**: PIP Ch. 23, 24)

Lecture 25: *Preparing for a graduate career in primatology: What steps should you take?*

Dates of topics, exams and discussions are subject to change if needed.

TERM PAPER for Anth 348

Each student will choose a topic that we covered in class and produce an up-to-date summary of the topic and issues surrounding the topic. This term paper will entail literature search, retrieval, and critique of the most recent primary sources. This paper should be **in less than 6-8 pages of text**, double spaced using 12 point font! A Lit Cited section, in complete bibliographic format will complete the paper. **Use no less than 12-point font, and double-space.**

You must have at least 15 primary source references (this means journal articles).

You can have more, and use books, etc – but you must have at least 10 journal articles cited. In addition, NO QUOTES! I take plagiarism very seriously, and I will check all papers for plagiarism.

Please see the criteria for evaluation posted on Cavas.

Again, this paper should be typed, in 12 point font, and please use double space.

RESOURCES

Primatological journals are available in the library and most can be downloaded from the Rutgers library website.

PRIMARY RESOURCES
There are 4 mainstream journals in primatology, and two secondary ones, and between the Science Library and personal collections, these are well covered at UCSC. You can search for articles on your species using Web Of Science. You can get to Web of Science from the Library Web Site

1) http://www.libraries.rutgers.edu/cms/findarticlesClick on Article Databases
2) Indexes and Databases
3) Click on Web of Science Link
4) Sign in with your Net ID and Password
5) Click on general Search
6) Type in your topic (species)

If you need help, just email me or come to my office hours.
Here are some primate journals:

Title
American Journal of Primatology
Folia Primatologica
International Journal of Primatology
Primates
American Journal of Physical Anthropology
Journal of Human Evolution

To search for sources, you can also go to: www.primate.wisc.edu/pin. Click on the box labeled PRIMATELIT. It is easy, comprehensive and user-friendly. You can search by author, species, key words, etc. However, this database is only up until 2010 so for new research articles use google scholar or web of science.

Reference Format: (all references must be formatted the same way!)

References should be in the following format: (THIS IS THE STANDARD FORMAT FOR The American Journal of Primatology)

Journal Articles:
Pandit SA, van Schaik CP. 2003. A model for leveling coalitions among primate males: towards a theory of egalitarianism. Behav Ecol Sociobiol 55:161-168.

(referenced in text of paper as (Pandit and van Schaik 2003)

van Schaik CP. 1983. Why are diurnal primates living in groups? Behaviour 87:120-144.
(referenced in text of paper (van Schaik 1983)

Visalberghi E, Janson CH, Agostini I. 2003. Response toward novel foods and novel objects in wild Cebus apella. International Journal of Primatology 24(3):653-675.
(referenced in text of paper (Visalberghi et al. 2003)

Books and Monographs:

Voet D, Voet JG. 1990. Biochemistry. New York: John Wiley & Sons. 1223 p.

Dissertations:

Ritzmann RE. 1974. The snapping mechanism of *Alpheid* shrimp [dissertation]. Charlottesville (VA): University of Virginia. 59 p. Available from: University Microfilms, Ann Arbor, MI; AAD74–23.

Book Chapters:

Gilmor ML, Rouse ST, Heilman CJ, Nash NR, Levey AI. 1998. Receptor fusion proteins and analysis. In: Ariano MA, editor. Receptor localization. New York: Wiley-Liss. p 75-90.