

ANTH 466/566: PRIMATE FEEDING AND NUTRITION

Instructor: Michel Waller

Term: Fall 2012

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Office: Condon 304, Primate Data Lab

Office Hours: Tuesdays, 2-4 & by appointment

Credit: 4 hours

COURSE DESCRIPTION

This course is designed to provide students with an advanced understanding of primate feeding and nutrition from a comparative evolutionary perspective. We begin with an introduction to the basic nutritional components of food and the comparative anatomy of the primate gastrointestinal tract. We will explore the diversity of anatomical and behavioral adaptations found among primate species, including prosimians, monkeys, apes, and humans. We will examine the challenges of finding and procuring enough food for survival and reproduction and the importance of adaptations characteristic of the Primate Order in meeting these challenges. This course concludes with a discussion and critical evaluation of the implications these concepts have for understanding the evolution of human dietary strategies and its application to current issues in human nutrition.

REQUIRED READING MATERIALS

All required readings will be posted on Blackboard

COURSE FORMAT, PERFORMANCE AND EVALUATION

Format

The format of the class will be a combination of lecture, discussion, and student led presentations. This is an advanced course and I expect students to be motivated and self-directed enough to complete assigned readings, research and read literature for term projects, contribute to class discussions, and complete assignments in a timely manner. Although some portion of this course will be lecture format, the class discussion, article presentation, and your final project are the focus and will help you hone your critical thinking and writing skills in biological anthropology. I view this class as a team effort, which means that you will get out of this course what you put into it. As members of the team, you will be expected to come to class each week prepared to discuss in a thoughtful and substantive way, the information included in your readings and the issues raised in them.

Grades and Assignments

There will be no make-ups except in accordance with University policy (you are ill, injured, have a family emergency, or are participating in a University sponsored activity). In such cases, you are required to notify me immediately, provide documentation, and schedule your makeup as soon as possible. There will be no individualized extra credit to offset poor performance in the class. Your grade for the course will be based on:

- Article Presentations: 20
- Article Papers (2): 10 (5 points each)
- Term Project Paper and presentation: 50
- Midterm Exam 15
- Attendance and Participation: 5

Article Presentations: These presentations should not only review the assigned reading, but relate the information to the larger topic of the week. Starting the second week, students will present (using powerpoint or prezi) a research or review article chosen from the list below. The presentation should be around 15 minutes long.

Article Papers: In addition to the presentation, you are responsible for writing two 2-3 page response papers to articles other than the one you presented.

Term Project Paper: Each student will complete a species-specific diet case study on a primate species and prepare a short presentation of the paper to give at the end of the term. The student will seek approval (in writing: ½ page single-spaced, 12 point font description of proposed topic) of the species and subject area by Week 4, submit an outline of the project by Week 7 (with a bibliography), and turn-in the completed research paper at the end of the scheduled final exam period for this class. If you are interested in writing a paper on a primate diet topic that is not species specific, you should discuss it with me during week 2.

Term Project Presentation: The last two weeks of class will be reserved for students to present their term projects (see attached "Presentation Guidelines"). These will be short presentations (no more than 10 minutes) intended to provide a summary of your paper and elicit questions and feedback to improve your term paper. Your scheduled time slot is assigned by lottery.

Attendance and Participation: Consistent attendance, participation (including noticeable evidence of having completed the assigned readings), and respectful interactions with the instructor and fellow students are essential for fostering a productive learning environment. Your contribution to the learning environment in the class includes: coming to class prepared; discussing insights you have on topics for the current week; a willingness to acknowledge your areas of uncertainty and ask questions in an effort to improve your understanding; active listening and respect for others; a willingness to offer and accept constructive criticism when appropriate; and helping to keep discussions focused and on track.

OTHER ISSUES AND POLICIES

Blackboard: All important information for the course will be posted on Blackboard.

Absences and Missed Assignments: There will be no make-ups or credit for absences except in accordance with University policy (you are ill, injured, have a family emergency, or are participating in a University sponsored activity). In such cases, you are required to notify me immediately, provide documentation, and schedule your makeup as soon as possible.

Cheating and Academic Honesty: As stated in the University of Oregon Policy on Academic Honesty "to present the words, ideas, data or work of another as one's own, or to cheat on an examination corrupts the essential process by which knowledge is advanced". Anyone guilty of cheating or engaged in any form of academic dishonesty will fail this course.

Discrimination: I am committed to fostering the University of Oregon's goals of encouraging a caring and supportive atmosphere on campus and of promoting a campus climate that understands and respects the needs of a diverse student body. The University of Oregon is an Affirmative Action / Equal opportunity Institution and there will be no tolerance of discrimination in this class on the basis of any of the categories described in the University's anti-discrimination policy. Please let me know if you feel discriminated against in any way. Penelope Daugherty of the Office of Affirmative Action and Equal Opportunity (346-2971) may also be of assistance.

Physical or Learning Disabilities: If you have a documented disability and anticipate needing accommodations in this course, please make arrangements to meet with me as early in the term as possible. Please provide me with a notification letter from Disability Services outlining your approved accommodations as early in the term as possible.

Changes to the syllabus: The course outline, schedule, and assigned readings may be subject to minor changes as the course unfolds.

COURSE SCHEDULE

Week	Topics	Readings
1	Introduction Terminology and basic concepts <ul style="list-style-type: none"> • Nutrients and dietary categories • Ecology 	Lambert, 2011-Primate Nutritional Ecology Schmidt-Nielsen 1997, Food Properties Film: Life in the Trees
2	Constraints and Digestion <ul style="list-style-type: none"> • Gastro-intestinal tract anatomy • GI adaptations among primates • Dentition 	Milton 1987-Gut Morphology Lambert 1998-Primate Diets
3	Anatomical Strategies <ul style="list-style-type: none"> • Color vision and other senses • Positional adaptations 	Kay 1985-Australopithecine Diets Lucas et al., 2003, Color vision Garber 2007, Primate Locomotion
4	Sex and food <ul style="list-style-type: none"> • Sex differences in foraging strategies • Implications for social organization 	Janson 2000-Primate Socio-ecology Koenig 2002-Competition for resources Film: The New Chimpanzees
5	Limited and limiting resources <ul style="list-style-type: none"> • Food availability and distribution • Resource switching, critical foods • Consequences of undernourishment • Take Home Midterm Exam 	Isbell 1991-Scramble and Contest Competition Lambert et al 2004-Fallback Foods Due by 5PM Oct 30th
6	Behavioral strategies, part 1 <ul style="list-style-type: none"> • Competition and cooperation • Group size, composition, range and dietary flexibility 	Cheney 1987-Group Interactions Waser 1987-Interactions among Primates
7	Behavioral strategies, part 2 <ul style="list-style-type: none"> • Intelligence—the importance of using and feeding a big brain • Traditions, proto-culture, and complex culture 	Dunbar 1998-Social brain hypothesis Rappaport and Brown 2008-Foraging with young
8	Implications for understanding the evolution of human dietary strategies	Potts 1998-Variability selection Knott 2005-Energetic responses
9	Student presentations	
10	Student presentations	
Finals	Final Project Paper	

Student Presentation Papers (available on blackboard)

Week Two

An ecological model of female-bonded primate groups, by Wrangham, 1980

Ecological constraints on group size, by Chapman et al. 1995

Ecological models of female social groups, by Isbell & Young, 2002

Jarman/Bell Model of Primate Ecology, by Gaulin 1979

Week Three

New views on primate origins, by Cartmill 1992

Reconstructing the diets of fossil primates, by Ungar 2002

Diet and Teeth, by Walker 1981

Chimps hunting with tools, by Pruettz and Bertolani

Week Four

Exchange meat for sex in chimps, by Gomes and Boesch 2009

No evidence for meat/sex exchange, by Gilby et al. 2010

Kinship, reciprocity, and altruism, by Schino and Aureli 2009

Cooperation and competition in chimpanzees, by Mitani 2009

Week Five

Human Reproduction and Nutrition, by Vitzhum 2001

Breastfeeding and immunology, by Labbok et al. 2004

Calorie restriction in NHP and mortality, by Hansen et al 1999

Calorie restriction in humans, aging and cancer, by Hursting et al 2003

Week Six

Imbalance of Power hypothesis, by Wrangham 1999

Why do male chimps defend a home range, by Williams et al 2004

Evolution of primate peace, by White et al 2013

Warfare and hunter/gatherers, by Bowles 2009

Week Seven

Food sharing between mothers and infants in chimpanzees, by Ueno & Matzusawa 2004

Grandmothering and *Homo erectus*, by O'Connell

Evolution of human families, by Flinn et al 2007

Week Eight

Hunter/gatherers and human evolution, by Marlowe 2005

Evolution of the human diet, by Ungar 2004

Domestication of plants and animals, by Diamond, 2002

Recent acceleration of human adaptive evolution, by Hawks et al. 2007