

NUTRITIONAL ANTHROPOLOGY

ARKY & ANTH 589 (Fall Semester 2012)

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Seminar: Weds. 3:00-6:00 pm., ES 908

Office hours: Weds. 12:30-2:00 & by appointment



Course Description and Goal



Image from Menzel & deAluisio (1998)
"Man Eating Bugs"

Over 150 years ago, Jean Anthelme Brillat-Savarin wrote, "...tell me what thou eat and I will tell thee what thou art." Cannon (1964) expanded upon this stating that, "...not only biography and genealogy, but the whole field of anthropology could, if one knew the code, be deduced from food."

Is food, in fact, a fundamental part of our identity? Today, in Calgary, who we are may seem somewhat removed from what we eat. The cultural distance that some of us now experience from our favored foods, however, has not always been so great. In fact, human behavior has evolved in great

part as an interplay between the environments our ancestors inhabited, their eating behavior, and cultural institutions. Prior to the industrial revolution and in most societies which continue some sort of pre-industrial subsistence pattern, much of an individual's daily activities were and are devoted to the production of food for their own consumption; a process mediated by both cultural and ecological factors.

The goal of this course is to help you to understand human dietary behaviors as the result of a dynamic web of ecological and cultural factors. To do this, we will cover eight subject areas: (1) the development of nutritional anthropology, (2) basic nutritional principles, (3) basic ecological principles, (4) diet from an evolutionary, comparative, and historic perspective, (5) cultural factors influencing diet, (7) the impact of undernutrition on human physiology and behavior, and (8) methods in nutritional anthropology.

Course Conventions

1. Lecture/Discussion: In order to meet the goals of the course you have to attend class regularly and on time. You must be prepared to discuss the assigned topic. You are responsible for lecture material and any announcements concerning changes in schedule, etc. Because we meet only once a week and this class requires your active input, if you have more than 2 unexcused absences your overall participation grade is automatically a '0' (please see the Individual Participation Self Appraisal at the class blackboard site for details).

2. Reading: The readings for this course are listed on the course bibliography found below. The bulk of the readings for this class will be posted on the class Blackboard website. If you anticipate difficulty in accessing the website, you must plan accordingly to ensure that you obtain all of the

readings with sufficient time to read them prior to each class. A careful and critical read of the assigned material is required. Keep in mind that you are not finished with the reading assignment until you thoroughly understand it. This will sometimes require you to read an assignment more than once. The assigned questions are designed to assist you in your critical evaluation of the material you are reading.

Required Text: Dettwyler 1994. *Dancing Skeletons*

3. Evaluation: You will be evaluated in this course on the basis of your in-class participation, short-answer questions on the readings, a dietary intake project, a review of a journal article, and a collaborative research paper and presentation.

You must provide advance notice to me if you are unable to complete an assignment by the due date. All requests for deferral of a due date for/due to health reasons must be accompanied by written documentation as outlined in the University Calendar and should be obtained while the student has the physical or emotional problem rather than after recovery. Travel arrangements and misreading of the syllabus are not valid reasons for requesting a deferred due date. Deferred due dates will not be granted if it is determined that just cause is not shown by the student.

Your final mark will be calculated as follows:

Participation_____	30%
Journal article review_____	10%
Short-Answer Question Sets_____	18%
Dietary Intake/Energy Expenditure Study_____	17%
Collaborative Term Paper and Presentation_____	25%

A passing grade is not required on any particular component for the student to pass the course as a whole; that is, a student may fail, for example, the journal article review or any other component and, assuming their overall average percentage earned for the course is above 49, they will pass the course.

Letter grade assignment: At the end of the course, the numerical marks will be summed and a final letter grade will be assigned based on the following scheme:

<u>Percentage range</u>	<u>Letter grade</u>	<u>Percentage range</u>	<u>Letter grade</u>
95 or higher	A+	68-72	C+
90-94	A	64-67	C
85-89	A-	59-63	C-
81-84	B+	54-58	D+
77-80	B	50-53	D
73-76	B-	49 or lower	F

4. Retrieving Assignments: The Freedom of Information and Protection of Privacy (FOIP) legislation disallows the practice of having students retrieve assignments from a public place, e.g., outside an instructor’s office or the Department main office. Term assignments must be returned to students individually, during class, or during the instructor’s office hours; if a student is unable to pick up her/his assignment s/he may provide the instructor with a stamped, self-addressed envelope to be used for the return of the assignment.

5. Office Hours: I enjoy having visitors during my office hours and am happy to schedule additional times as necessary. These hours are yours and I encourage you to take advantage of them, whether you are having difficulty with some aspect of the course, or if you would like to discuss in greater detail something that was touched on in class.

6. E-mail: Students are encouraged to use the lectures and office hours to ask questions. For after-hours questions, the use of email is acceptable. Please write 'ARKY 589' or 'ANTH 589' in the 'Subject' portion of the email. I receive numerous e-mails every day. By clearly identifying the subject of your email, you will help me reply more efficiently to your emails. Note that if I think that your question and related answer is of general interest, I may decide to post them on the course Blackboard space (your name will not appear).

7. Writing Across the Curriculum: Writing skills are not exclusive to English courses and, in fact, should cross all disciplines. The University supports the belief that throughout their University careers, students should be taught how to write well so that when they graduate their writing abilities will be far above the minimal standards required at entrance. Consistent with this belief, students are expected to do a substantial amount of writing in their University courses and, where appropriate, instructors can and may use writing and the grading thereof as a factor in the evaluation of student work. The services provided by the Writing Centre in the Effective Writing Office (<http://www.ucalgary.ca/writingsupport/>, tel. 220-5881) can be utilized by all undergraduate and graduate students free of charge.

8. Academic Accommodation Policy: The purpose of academic accommodation is to provide students with documented disabilities equal opportunity to master the essentials of a post-secondary education. Students with disabilities at the University of Calgary have met all admission requirements but may have done so with the use of accommodations. Similarly, they are expected to meet all academic and non-academic requirements. Adaptive technology and other academic accommodations do not relieve students of their responsibility to develop the essential skills and abilities expected of all students. Please refer to the following web link for detailed information: <http://www.ucalgary.ca/drc/node/71>

9. Disability Resource Centre Accommodations: It is the responsibility of the student to request academic accommodations. If you are a student with a documented disability who may require academic accommodation and have not registered with the Disability Resource Centre, please contact their office at (403)220-8237. Students who have not registered with the Disability Resource Centre are not eligible for formal academic accommodation. Students are also required to discuss their needs with the instructor no later than fourteen (14) days after the start of the course.

10. Academic Misconduct: Academic dishonesty is an unacceptable activity at the University of Calgary and students are **strongly advised** to read the Student Misconduct section of the University Calendar. Quite often, students are unaware of what constitutes academic dishonesty or plagiarism. The most common are:

- 1) Presenting another student's work as your own
- 2) Presenting an author's work or ideas as your own without proper referencing
- 3) Using work completed for another course

This activity will not be tolerated and students conducting themselves in this manner will be dealt with according to the procedures outlined in the University Calendar.

For detailed information on what constitutes academic misconduct, please refer to the following link: <http://www.ucalgary.ca/pubs/calendar/current/k-2-1.html>

Deadlines to keep in mind

Deadlines are part of the assignments. Late work will not be accepted. Question sets for each week's readings must be complete and printed prior to 3:00 pm each Wednesday. While you are free to add notes to your completed question set in class, you may not use that time to complete your answers. All other assignments are due no later than 4:00 pm on the due date.

- 1 day before your **journal article review** is presented in class- e-mail me your review
- 5 October (Fri.)- e-mail me the name of the **Organizer for your** collaborative research paper
- 12 October (Fri.)- **dietary intake project** due (provide a hard copy- do not e-mail this to me)
- 16 October (Thur.)- **sign up for** collaborative research paper **topic**
- 26 October (Fri.): **1st Annotated bibliography** of sources considered for your collaborative research paper due
- 2 November (Fri.): **2nd Annotated bibliography** of sources considered for your collaborative research paper due
- 23 November (Fri.): **model of your answer** to the collaborative research paper question due.
- 30 November (Fri.): **abstract** of your collaborative research paper due
- 5 December (Wed.)- **group presentation** of your collaborative research paper
- 12 December (Wed.)- **collaborative research paper** due

Schedule¹

Date	Topic	Reading Assignment ²
Sept. 12	Introduction, Anthropology, Science, Video: <i>Garlic is as Good as 10 Mothers</i>	
Sept. 19	Critical thinking I, Nutritional anthropology in the field: field work	Ruggiero 2004 Ch. 2, 6, & 13, Dettwyler 1994 (<i>all chapters</i>)
Sept. 26	Critical thinking II, Nutritional anthropology: history, Cali project, different approaches to the study of food.	Sagan 1996, Greenhalgh & Taylor 1997, Pope & Ziebland 2000 ³ , Harris 1978, Allison 1991
Oct. 3	Basic principles of nutrition: physiology of digestion, macro-& micronutrients	Ruggiero 2004 Ch. 19, Pelto et al. 2000, Whitney and Rolfes 2005: Ch. 1, 3, <i>and</i> one of 4, 5, or 6
Oct. 10	Organoleptic Properties & Food Choice Basic principles of ecology: energy flow and nutrient cycles	Ackerman 1990, Rozin 1987, Southwick 1996
<i>Note: Your dietary intake project is due no later than 4:00 pm on Friday, October 12. Turn this in at the wooden box outside the Archaeology main office (ES 806)</i>		
Oct. 17	Evolutionary perspective: what did our ancestors eat?	Cordain et al. 2000, Milton 2000, Stanford 1995, Wrangham et al. 1999, Mitani et al. 2002, Klein 2000 ³ , Ungar et al. 2006 ³ , Hockett and Haws 2003 ³
Oct. 24	Staple crops: strengths & weaknesses Pre-industrial diets: Tropical rainforests, Yapu slides	Diamond 1990, Normille 2000, Katz et al. 1975, Moran 1993, Dufour 1995, Dufour 1990 ³
Oct. 31	Pre-industrial diets: East African Pastoralists (Video: <i>Year of the Clouds</i>)	Reader 1988, Moran 1982, Galvin 1994
Nov. 7	Cannibalism? Culture & infant feeding	Harner 1977, Preston 1998, Bergner 2003, Pelto 1981, Levine 1988, Gray 1996 ³
Nov. 14	Undernutrition: physiological impacts	Whitney and Rolfes 2005 (Review PEM), Goodman et al. 2000, Frisancho 1993, Pelletier 1994, Martorell 1989, Martorell et al. 1992 ³ , Chavez et al. 1995 ³ , de Onis et al. 1993 ³
Nov. 21	Students' choice of topics ⁴	To be determined
Nov. 28	Students' choice of topics ⁴	To be determined
Dec. 5	Group Presentations	Abstracts of papers to be presented

¹ Note, the schedule of topics may change, but the assignment due dates will not change.

² The reading assignments are subject to change should I find, during the present semester, more recent publications which better cover the topic considered. If this occurs, I will inform you no later than 2 weeks prior to the relevant class.

³ This paper is suggested for undergraduate students and required for graduate students.

⁴ In early November, students will be asked to vote for topics to be covered in the classes on Nov. 23 & 30. Possible topics are listed below. Students are free to suggest others which I may choose to include in the list.

Food as medicine

Geophagy (PICA)

Celiac's disease

The impact of culture change on diet and health

Course Bibliography¹

Ackerman, Diane. 1990. *A Natural History of the Senses*. Vintage Books, NY, NY. Pp. 127-143 (Although I have provided the entire chapter on taste, you are only required to read the following three sections from this chapter: "The Social Sense", "The Omnivore's Picnic", and "Bloom of a Taste Bud".)

Allison, Anne. 1991. Japanese Mothers and Obentos: The Lunchbox As Ideological State Apparatus. *Anthropological Quarterly*. 64:195-208.

Bergner. 2003. The Most Unconventional Weapon. *The New York Times*. Oct. 25. Sunday Times Magazine

Chavez, Adolfo, Cecilia Martinez, and Beatriz Soberanes. 1995. The Effect of Malnutrition on Human Development: A 24 Year Study of Well-Nourished and Malnourished Children Living in a Poor Mexican Village. In: N. S. Scrimshaw, ed. *Community-Based Longitudinal Nutrition and Health Studies: Classic Examples from Guatemala, Haiti, and Mexico*. Boston: International Nutrition Foundation for Developing Countries, pp. 79-124.

Cordain, L, Miller, JB, Eaton, SB, Mann, N; Holt SHA; and Speth, JD (2000) Plant-animal subsistence ratios and macronutrient energy estimations in worldwide hunter-gatherer diets. *American Journal of Clinical Nutrition* 71:682-692.

de Onis, M, C. Monteiro, J. Akre and G. Clugston. 1993. The worldwide magnitude of protein-energy malnutrition: an overview from the WHO Global Database on Child Growth. *Bulletin of the World Health Organization*, 71 (6):703-712.

Dettwyler, Katherine A. 1994. *Dancing Skeletons: Life and Death in West Africa*. Waveland Press, Long Grove, IL.

Diamond, Jared 1997. The worst mistake in the history of the human race. *Discover*, May, Pp. 64-66.

Dufour, Darna L. 1990. Use of tropical rainforests by Native Amazonians. *Bioscience* 40(9): 652-659.

Dufour, DL. 1995. A closer look at the nutritional implications of bitter cassava use. In: *Indigenous Peoples and the Future of Amazonia: An Ecological Anthropology of an Endangered World*. Edited by Leslie Sponsel. University of Arizona Press, Tucson, AZ. Pp. 149-165.

Frisancho, A. Roberto. 1993. *Human Adaptation and Accommodation*, Chapter 16: Accommodation to Experimental Starvation and Chronic Undernutrition. University of Michigan Press, Ann Arbor, MI. Pp. 381-397.

Galvin, Kathleen A., D. Layne Coppock, and Paul W. Leslie. 1994. Diet, Nutrition, and Pastoral Strategy. In: *African Pastoralist Systems: An Integrated Approach*, edited by Elliot Fratkin, Kathleen A. Galvin, and Eric Abella Roth. Lynsee Rienner Publishers, Inc. Pp. 113-131.

Goodman, Dufour, and Pelto. 2000. Undernutrition: counting, classification, and consequences. In *Nutritional Anthropology: Biological Perspectives on Food and Nutrition*. Edited by Goodman, Dufour, and Pelto. Mountain View Press, Mayfield CA. Pp. 221-226.

Gray, S. J. 1996. Ecology of weaning among nomadic Turkana pastoralists of Kenya: maternal thinking, maternal behavior, and human adaptive strategies. *Human Biology* 68(3):437-465.

Greenhalgh, Trisha and Rod Taylor. 1997. How to read a paper: Papers that go beyond numbers (qualitative research). *British Medical Journal* 315:740-743.

- Harner, Michael, 1977. The Enigma of Aztec Sacrifice. *Natural History* (April) 86(4):46-51.
- Harris, Marvin. 1978. India's Sacred Cow. *Human Nature* (February) Pp. 28-36.
- Hockett, Bryan and Jonathan Haws 2003. Nutritional ecology and diachronic trends in Paleolithic diet and health. *Evolutionary Anthropology* 12:211-216.
- Katz, Solomon H., M. L. Hediger, and L. A. Valleroy, (1975) Traditional Maize Processing Techniques in the New World. *Science* 184: 765-773.
- Klein, RG (2000) Archaeology and the evolution of human behavior. *Evolutionary Anthropology* 9(1):17-36.
- Lee, Richard B. 1969. Eating Christmas in the Kalahari. *Natural History* Vol. 78, No. 10.
- Lee, Richard B. 2000. Postscript to a Christmas Story: The People of /Xai/xai Thirty Years On. *Natural History* archives, http://www.naturalhistorymag.com/master.html?http://www.naturalhistorymag.com/editors_pick/1969_12_pick.html, Accessed 17 August 2005.
- Levine, Nancy E. 1988. Women's work and infant feeding: a case from rural Nepal. *Ethnology* 27(3):231-251.
- Martorell, Reynoldo 1989. Body size, adaptation, and function. *Human Organization*. 49(1):15-20.
- Martorell, Reynaldo; Juan Rivera, Haley Kaplowitz and Ernesto Pollitt. 1992. Long-term consequences of growth retardation during early childhood. IN *Human Growth: Basic and clinical aspects*. M. Hernandez and J. Argente, editors. Elsevier Science Publishers. Pp. 143-149.
- Milton, K (2000) Hunter-gather diets—a different perspective. *American Journal of Clinical Nutrition* 71(3):665-667.
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- Moran, E.M. 1993. *Through Amazonian eyes: The human ecology of Amazonian populations*. University of Indiana Press. Chapter 1: Amazonia people and environment (Pp. 2—33).
- Normile, Dennis 2000. Agriculture: Variety spices up Chinese Rice Yields. *Science* 289(5482): 1122-1123.
- Pelletier, David L. 1994. The potentiating effects of malnutrition on child mortality: epidemiologic evidence and policy implications. *Nutrition Reviews*. 52(12):409-415.
- Pelto, Gretel H. 1981. Perspectives on Infant Feeding, decision making, and ecology. *Food and Nutrition Bulletin*. 3(3):16.
- Pelto, Gretel H., Alan Goodman, Darna Dufour 2000. *The biocultural perspective in Nutritional Anthropology in Nutritional Anthropology: Biological Perspectives on Food and Nutrition*. Edited by Goodman, Dufour, and Pelto. Mountain View Press, Mayfield CA. pp. 1-15.

Pope, Catherine & Sue Ziebland. 2000. Qualitative research in health care: Analysing qualitative data. *British Medical Journal* 320:114-116. (optional for undergraduates, required for graduate students).

Preston, Douglas. 1998. Cannibals of the canyon: has a controversial anthropologist uncovered the truth about a great Southwestern civilization? *New Yorker* 74(37): 76. Nov 30.

Reader, John 1988. *Man on Earth*. University of Texas Press. Austin, Texas. Pp. 89-108.

Rozin, P. 1987. Psychobiological perspectives on food preferences and avoidances. IN *Food and Evolution*, edited by M. Harris and E. B. Ross. Temple University Press, Philadelphia, PA. Pp. 181-205.

Ruggiero 2004. *Beyond feelings: a guide to critical thinking*. McGraw Hill. Chapters 2, 6, 13, 19.

Sagan, Carl 1996. *The Demon-Haunted World: Science as a Candle in the Dark*, Balantine Books, New York, pp. 203-218.

Southwick, Charles. 1996. *Global Ecology in Human Perspective*. Oxford University Press, NY, NY. Pp. 33-67.

Stanford, Craig B. 1995. Chimpanzee hunting behavior and human evolution. *American Scientist*, May-June issue.

Ungar, Peter S., Frederick E. Grine, Mark F. Teaford. 2006. Diet in early Homo: a review of the evidence and a new model of adaptive versatility. *Annual Review of Anthropology*. 35:209-28.

Whitney, Ellie, Sharon R. Rolfes. 2005. *Understanding Nutrition*. Tenth Edition. Thomson Wadsworth, Belmont, CA.

Wrangham, Richard W., James Holland Jones, Greg Laden, David Pilbeam, Nancy Lou Conklin-Brittain 1999. The raw and the stolen. *Current Anthropology*. 40(5): 567-594.

¹ The course bibliography is subject to change should I find, during the present semester, more recent publications which better cover the topic considered.

Human research: Students will be expected to conduct research on themselves in this course by collecting and analyzing three days of dietary and activity data. Please see the Dietary Intake assignment in the assignment section of the course blackboard site.

Supplemental fees: There are no mandatory supplemental fees for this course.

Freedom of Information and Protection of Privacy Act: The University of Calgary is committed to protecting the privacy of individuals who work and study at the University or who otherwise interact with the University in accordance with the standards set out in the Freedom of Information and Protection of Privacy Act. Please refer to the following link for detailed information:
<http://www.ucalgary.ca/secretariat/system/files/foip%20overview.pdf>

Emergency Evacuation Assembly Points: In the event of an emergency that requires evacuation, please refer to the following link to become familiar with the assembly points for the class:
<http://www.ucalgary.ca/emergencyplan/assemblypoints>

Safewalk Information: Campus Security, in partnership with the Students' Union, provides the Safewalk service, 24 hours a day to any location on Campus including the LRT, parking lots, bus zones and University residences. Contact Campus Security at (403) 220-5333 or use a help phone, and Safewalkers or a Campus Security Officer will accompany you to your campus destination.

Contact Information for Student and Faculty Representation

Student Union Vice President – Academic

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Student Union Faculty Representative

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Student Ombudsman's Office

<http://www.su.ucalgary.ca/services/student-services/students-rights.html>