

# ANTH 310 Human Ecology and Variation

## Fall 2015

**Instructor:** Maranda A. Kles, Ph.D  
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337-482-5371

**Class Time and Room:** Mouton Hall 208  
Monday, Wednesday, and Friday 11:00-11:50 am

**Office Hours and Location:** Mouton Hall 109B  
Monday 10:00-10:50AM  
Tuesday 10:00-12:00  
Wednesday 2:30-4:00  
Friday 10:00-10:50

**Course Description:** Humans are a highly variable species and this is the result of both biology and the environment. In this course we will review the factors that contribute to the differences we observe among individuals and populations, as well as the underlying biological and environmental forces that shape those differences. The individual and the population play a role, their genotype, phenotype, and sociocultural practices along with evolutionary forces shape the human body and impact how we adapt to the environment.

Course Objectives: By the end of this course students should be able to:

- Understand the biological sources of phenotypic and genetic variation among humans
- Understand the biological and cultural adaptations to various environments
- Be able to articulate the interplay between biology and culture in the evolution and adaptation of modern humans.

### Required Textbooks:

- Moran, E. **Human Adaptability: An Introduction to Ecological Anthropology** (3<sup>rd</sup> ed.) 2008 ISBN: 978-0-8133-4367-9
- Mielke, J., Konigsberg, L., and Relethford, J. **Human Biological Variation** (2<sup>nd</sup> ed.) 2011 ISBN: 978-0-19-538740-7

**Grading policy:** Grades will be based on 1 plagiarism quiz (10 pts), 1 syllabus quiz (10 pts), 3 exams (50pts each), 10 reading summaries (10pts each), a paper topic (10pts), an abstract (25pts), 5-8 page paper (50pts), and class participation (25 pts) for a total of 380 points. Attendance is taken in the form of class participation and submission of reading summaries. Final grades will be:

A	340-380
B	300-339
C	260-299
D	225-259
F	<225

**Exams and quizzes:** The plagiarism and syllabus quiz must be completed in the first two weeks of class, both quizzes can (should) be taken repeatedly until the student receives 100% on each. The student must provide a copy of the completed plagiarism quiz to the instructor.

Students are responsible for all of the information provided in the textbook and lecture/discussion. Make-ups for excused absences will be handled on a case-by-case basis depending on the activity missed.

Make-ups will not be scheduled unless demonstrated illness, serious emergency, or major scheduling conflict with proof provided to the Instructor.

The exams are constructed so that attendance is rewarded. Exams will primarily consist of short answer.

**Final Paper:** The final paper (50pts) will require the student to select a topic relevant to the class and write a 5-8-page research paper on that topic. The paper must be properly cited. Students must complete all aspects of the paper topic, abstract, and final paper in order to pass the class.

- *Paper topic* (10 pts.): You are required to submit a brief statement defining your topic of interest. The statement should identify your topic and the key arguments in your paper. Do some preliminary library research to help you appropriately identify and narrow your research question.
- *Abstract* (25 pts.): You are required to submit a 250 word abstract and an outline of your paper. This abstract should be a condensed version of your paper. It should clearly identify your thesis statement, provide an overview of the key arguments that you make in the paper, identify the evidence you will use, and identify the conclusion of your research. It should be written in a similar fashion to the abstracts for a professional article. The outline should give an idea of the structure of your paper and how you intend to arrange your topics and content.
- *Final paper* (50 pts.): The final paper should be 5-8 pages (excluding title, abstract and references). Figures and tables are not necessary, but if used they should be included at the end of the paper. Papers should be 1.5 spaced in 11-12 pt. Times New Roman font with 1-inch margins. References should be formatted with an appropriate bibliographic style (i.e. Chicago Manual of Style, American Anthropologist style etc.) If you have questions about appropriate bibliographic format, please come see me.

The purpose of this paper is to help students develop their writing skills, with a mind towards professional publications, although the skills translate into any number of profession skills needed to succeed outside of the academic world.

**Reading summaries:** Cannot do summaries on book chapters, must be a summary of an article assigned for class. These summaries are designed to help you better prepare for class. The purpose of a reading summary is to review the relevance, accuracy, and quality of the source. They are descriptive and critical.

Single-spaced 12 pt font, 1-in margins, approximately ½ a page per article. Should include a complete bibliographic entry in a citation style consistent with your field or one of the articles used in class, such as APA or MLA.

Things to focus on:

- What is the author's main point(s) or argument? What are the subarguments (if any)?
- What are the key concepts? How are key words defined?
- Is the author making any implicit or explicit assumptions?
- Consider and evaluate the authority or background of the author?
- What is the intended audience? Does that impact the presentation or argument in any way?

EXAMPLES:

Waite, L. J., Goldschneider, F. K., & Witsberger, C. (1986). Nonfamily living and the erosion of traditional family orientations among young adults. *American Sociological Review*, 51 (4), 541-554.

The authors, researchers at the Rand Corporation and Brown University, use data from the National Longitudinal Surveys of Young Women and Young Men to test their hypothesis that nonfamily living by young adults alters their attitudes, values, plans, and expectations, moving them away from their belief in traditional sex roles. They find their hypothesis strongly supported in young females, while the effects were fewer in studies of young males. Increasing the time away from parents before marrying increased individualism, self-sufficiency, and changes in attitudes about families. In contrast, an earlier study by Williams cited below shows no significant gender differences in sex role attitudes as a result of nonfamily living.

**Ehrenreich, B. (2001). Nickel and dimed: On (not) getting by in America. New York: Henry Holt and Company.**

In this book of nonfiction based on the journalist's experiential research, Ehrenreich attempts to ascertain whether it is currently possible for an individual to live on a minimum-wage in America. Taking jobs as a waitress, a maid in a cleaning service, and a Walmart sales employee, the author summarizes and reflects on her work, her relationships with fellow workers, and her financial struggles in each situation. An experienced journalist, Ehrenreich is aware of the limitations of her experiment and the ethical implications of her experiential research tactics and reflects on these issues in the text. The author is forthcoming about her methods and supplements her experiences with scholarly research on her places of employment, the economy, and the rising cost of living in America. Ehrenreich's project is timely, descriptive, and well-researched.

All assignments are due before class by email to the instructor.

**File formatting:** Word document files are preferred. Name files as follows: Last name\_type of assignment and #\_author, so for example my second reading summary submission on the Low article would be Kles\_summary2\_Low.

**Attendance:** Taken in the form of class participation and extra credit opportunities. Participation includes occasional short presentations in class. Students are expected to attend each class meeting and take an active part in discussion and activities. Active participation requires that you read all assignments and prepare questions and discussion points. I will evaluate your participation on the quality of your contributions, not just the quantity of contributions, participation includes raising insightful questions, and discussing articles and movies.

Excused absences include illness with a doctor's note, personal situations with supporting documentation, or academic related events with supporting documentation. If you know in advance you will be absent please notify me. If you will be absent for an extended period of time please contact the Office of Student Life and Conduct (Martin Hall; 482-6276).

**Student behavior, academic honesty, and accommodations:** Students must turn off cell phones during class and computers can only be used for note taking. If a student is found to be violating either of these policies they will first be asked to stop the activity, if it continues they will be asked to leave the class room. No photos or recordings can be taken in class, unless permission is provided by the instructor. Handouts may be provided to help with studying. Slides are always available for review during office hours.

Any students caught cheating will be receive an "F" for the course. Cheating includes, but is not limited to: working together on exams or the online quizzes, using notes during exams, using information/ assignments from previous semesters, or plagiarizing. Students are expected to adhere to the University of Louisiana at Lafayette's Code of Academic Honesty (found in the Academic Catalog).

Students needing academic accommodations for a disability must first be registered with the Office of Disability Services (ODS; 482-5252) to verify the disability and to establish eligibility for accommodations.

Students with accommodations should contact Dr. Kles at their earliest convenience, accommodations cannot be applied retroactively. Slides are always available for additional review during office hours.

## Lecture and Exam Schedule

Readings may be added or modified at the discretion of the instructor.

Date		Topic	Quiz Week	Chapter:pages; readings
August	24	Introduction		Moran: 1 (3-11); Sponsel 2007; Helm 1962
	26	History of Human Classification		Moran: 2 (27-38); Mielke: 1
	28	History cont.		Marks 1996
	31	Modern Study of Human Variation	Syllabus and plagiarism quiz completed	Moran: 3 (61-76); Mielke: 13; Relethford 2009
September	2	Ecological Theory	Class presentation	Moran: 2(39-56); assigned articles
	4	Ecological Theory cont.	Class presentation	
	7	<b>NO CLASS- Martin Luther King Day</b>		
	9	Genetics		Mielke:2; Dorsten 1999
	11	Heritability/Plasticity/Epigenetics		Mielke:3; Hulse 1981; Yehuda et al 2014; Block 1995
	15	Nutrition, Health, Disease		Baker 1997; Bateson 2004; Diamond 1991; McMichael 2004
	16	Forces of Evolution; Adaptationist Paradigm		Mielke: 3; Moran:3 (77-83); Lewontin 1978; Grayson 1993
	18	Skin Color/Head and body shape		Mielke: 11 and 12; Berry and Berry 1967; Beals 1972; Steegmann 1970, Post et al. 1975; Katzmarzyk et al 1998
	21	Lactose tolerance and thrifty genotype		Mielke: 8; Allen and Cheer 1996; Benyshek and Watson 2006; Weiss et al. 1984
	23	Malaria		Mielke: 7
	25	Blood groups		Mielke: 4 (5 and 6)
	28	Review (if time allows)		
	30	<b>EXAM 1</b>		
October	2	<b>NO CLASS</b>		
	5	Types of Variation: Subsistence	Class presentation	Moran: 3 (83-85); Laland and Brown 2006
	7	Types of Variation: Political/Religion	Class presentation	
	9	Types of Variation: Material culture	Class presentation	

	12	Types of Variation: Kinship	<b>Class presentation</b>	
	14	<b>NO CLASS</b>		
	16	Theory on Cultural variation, change, and movement		
	19	Review (if time allows)		
	21	<b>EXAM 2</b>		
	23	Human Evolution in the Environment; What are the environmental factors?		
	26	Humid Tropics	<b>Paper Topic Due</b>	Moran: 9; Macfarlan et al 2012; Posey 1985
	28	Humid cont.		
	30	Zombies and the Environment		
November	2	Tropical Savanna/Grassland		Moran:8;
	4	Savanna cont.		
	6	Temperate Forest		
	9	Forest cont.		
	11	Arid Desert		Moran: 7; Little et al 2001; Hanna 1970
	13	Desert cont.		
	16	High Altitude	<b>Abstract Due</b>	Moran:6; Beall 2004; Beall 2006; Kiyamu et al 2014
	18	Altitude cont.		
	20	Arctic		Moran: 5; Smith and Smith 1994
	23	Arctic cont.		
	25	Urban Ecology		Moran: 10; Fahmi and Sutton 2006
	27	Politics and Power		Moran: 2 (55-56); Johnston 1995
	30	Where do we go?		Moran: 4; Websites: UN; Footprints; Charnley and Durham 2010
December	2	Review (if time allows)		
	4	<b>EXAM 3</b>		
	7-11	MAKE-UP EXAMS	<b>Final Paper Due</b>	

## Readings

- Allen, J.S. and Cheer, S.M 1996 The non-thrifty genotype. *Current Anthropology* 37(5): 831-842
- Baker, PT 1997 The Raymond Pearl Memorial Lecture, 1996: The eternal triangle- Genes, phenotype, and environment. *American Journal of Human Biology* 9:93-101.
- Bateson, P et al 2004 Developmental plasticity and human health. *Nature* 430: 419-421

- Beall, CM 2006 Andean, Tibetan, and Ethiopian patterns of adaptation to high-altitude hypoxia. *Integrative and Comparative Biology* 46(1): 18-24.
- Beall, CM et al 2004 Higher offspring survival among Tibetan women with high oxygen saturation genotypes residing at 4,000m. *Proceedings of the National Academy of Science* 11 (39): 14300-14304.
- Beals, KL 1972 Head form and climatic stress. *American Journal of Physical Anthropology (AJPA)* 37: 85-92.
- Benyshek, DC and Watson JT 2006 Exploring the thrifty genotype's food-shortage assumptions: A cross-cultural comparison of ethnographic accounts of food security among foraging and agricultural societies. *AJPA* 131(1): 120-126.
- Berry AC and Berry, RJ 1967 Epigenetic variation in the human cranium. *Journal of Anatomy* 11(2): 361-379.
- Block, N 1995 How heritability misleads about race. *Cognition* 56(2): 99-128
- Charnley, S. and Durham, W. 2010. Anthropology and Environmental Policy: What Counts? *American Anthropologist* 112(3):397-415.
- Diamond, J. 1991 The Saltshaker's Curse. *Natural History*, 100(10): 22-26  
<http://search.ebscohost.com.lp.hscl.ufl.edu/login.aspx?direct=true&AuthType=ip,uid&db=aph&AN=9110216036&site=ehost-live>
- Dorsten, LE et al 1999 The effect of inbreeding on early childhood mortality: Twelve generations of an Amish settlement. *Demography* 36(2): 263-271.
- Fahmi, W and Sutton, K. 2006 Cairo's Zabaleen Garbage Recyclers: Multi-nationals' Takeover and State Relocation Plans. *Habitat International* 30:809-837.
- Grayson, DK 1993 Differential mortality and the Donner Party disaster. *Evolutionary Anthropology* 2(5): 151-159.
- Hanna, JM 1970 Responses of native and migrant desert residents to arid heat. *AJPA* 32: 187-196.
- Helm, J. 1962. The Ecological Approach to Anthropology. *American Journal of Sociology* 17: 630-639.
- Hulse, FS 1981 Habits, habitats, and heredity: A brief history of studies in human plasticity. *AJPA* 56(4): 495-501
- Johnston, B 1995. Human Rights and the Environment. *Human Ecology* 23:111-123.
- Katzmarzck, P. et al 1998 Climatic influences on human body size and proportions: Ecological adaptations and secular trends *AJPA* 106(4): 483-503
- Kiyamu, M., Elias, G, Leon-Velarde, F., Rivera-Chira, M., and Brutsaert, T. 2014. Aerobic Capacity of Peruvian Quechua: A Test of the Developmental Adaptation Hypothesis. *AJPA*
- Laland, K and Brown, G. 2006. Cultural Niche Construction, Human Behavior, and the Adaptive Lag Hypothesis. *Evolutionary Anthropology* 15(3):95-104.
- Lewontin, R 1978 Adaptation. *Scientific American* 212-230
- Little, P, Mahmoud, H., and Coppock, D. 2001. When deserts flood: risk management and climate processes among East African pastoralists. *Climate Research* 19(2):149-159.
- Macfarlan, S., Remiker, M., and Quinlan, R. 2012. Competitive Altruism Explains Labor Exchange Variation in a Dominican Village. *Current Anthropology* 35(1): 118-124.
- Marks, J 1996 Science and Race. *American Behavioral Scientist* 40(2): 123-133.
- McMichael, AJ 2004 Environmental and social influences on emerging infectious diseases: past, present, and future. *Philosophical Transactions of the Royal Society of London* 359:1049-1058.
- Posey, D. 1985. Indigenous management of tropical forest ecosystems: The case of the Kayapo Indians of the Brazilian Amazon. *Agroforestry Systems* 3(2):139-158.
- Post, PW et al 1975 Cold injury and the evolution of 'white' skin. *Human Biology* 39:131-143
- Relethford, JH 2009 Race and global patterns of phenotypic variation. *AJPA* 139(1): 16-22.
- Smith, E. and Smith, S. 1994. Inuit Sex-Ratio Variation: Population Control, Ethnographic Error, or Parental Manipulation? *Current Anthropology* 35(5): 595-624.

- Sponsel, L. 2007. Ecological Anthropology <http://www.eoearth.org/view/article/151926/>
- Steegman, AT 1970 Cold Adaptation and the human face. American Journal of Physical Anthropology 32: 243-250.
- Weiss, KM, Ferrell, RE, and Hanis RL 1984 A New World syndrome of metabolic diseases with a genetic and evolutionary basis. Yearbook of Physical Anthropology 27: 153-178.
- Yehuda, R. et al 2014. Influences of Maternal and Paternal PTSD on Epigenetic Regulation of the Glucocorticoid Receptor Gene in Holocaust Survivor Offspring. American Journal of Psychiatry.

### **Ecological Theory Presentation Readings**

Cultural Ecology: Barth, F. 2007 Overview of Sixty Years of Anthropology. Annual Review of Anthropology. 36: 1-16 (Focus on Ecology and Economics section, but skim whole article)

Ecological Anthropology: Orlove, B. 1980 Ecological Anthropology. Annual Review of Anthropology. 9:235-273.

Ethnoecology: Nolan, J 2006. Ethnoecology. Encyclopedia of Anthropology.

Historical Ecology: Balee, W. 2006. The Research Program of Historical Ecology. Annual Review of Anthropology. 35:75-98

Political Ecology: Little, P 1999. Environmentalists and Environmentalism in Anthropological Research: Facing a New Millennium. Annual Review of Anthropology 28:253-284

Spiritual Ecology: <http://www.eoearth.org/view/article/51cbeecf7896bb431f69a6f4/>  
<http://www.eoearth.org/view/article/51cbeec77896bb431f69a2dd/>

### **Where do we go?**

<http://www.un.org/millenniumgoals/environ.shtml>

<http://www.footprintnetwork.org/en/index.php/GFN/page/calculators/>