

HUMAN BIOLOGICAL VARIATION
Anthropology 3220
Fall Semester 2011
9:30-10:45 am Tues, Thurs

Instructor: Gwen Robbins

Office: 401 Sanford Hall

Phone: 828-262-7505; 336-207-2744 for appointments

Office hrs: 11-12:30; 2-3:30; 10-11 Fri by email; by appointment, or anytime my door is open

ANT 3220 Human Biological Variation/(3). Fall.

This course provides a survey of theoretical frameworks in biological anthropology. The course begins with an examination of the history and development of evolutionary theory, the modern synthesis, and the “New Physical Anthropology.” Feminist critiques, objections to the adaptationist program, and the development of biocultural approaches to human biology will be examined and applied to the study of patterns and processes in human evolution. Issues to be addressed in this course include the evolution of primate life histories, the origin of modern human biological variation, human reproduction, and evolutionary medicine. (WRITING)

Specific Goals of the Course

1. To understand the history of theoretical developments in the study of human variation
2. To read and analyze different types of core texts in Biological Anthropology—including theoretical, methodological, empirical, and review articles.
3. To complete low-risk writing assignments based on this reading (critical summaries), in preparation for class discussion.
4. To learn effective writing skills in Biological Anthropology. Students will develop a thesis about human biological variation, research this topic, write an effective essay, go through the process of peer revision, and thoughtfully revise based on suggestions.
5. To develop presentation skills by researching and preparing an academic lecture.

Required Texts

- (1) Stinson S., Bogin B., Huss-Ashmore R., O'Rourke D. 2000. Human Biology: and evolutionary and biocultural perspective. New York: Wiley-Liss.
- (2) Supplemental articles will be provided online

Grading

Your grade will be based on: 15 critical summaries of articles (30% of final grade), 2 presentations (40%), peer review comments and 1 Final Research Paper (complete portfolio worth 30% including paper, peer review comments, responses to comments, and draft revisions).

(1) 15 CRITICAL SUMMARIES OF ARTICLES (30%). Each week, students will turn in a critical summary of the week's reading (outline of chapter with two or three questions about what you read plus summary of one of the additional assigned readings). These summaries will be 1-2 pages each. If you summarize a research paper, you will outline the goals, hypotheses, materials, methods, results, and conclusions and then provide your own critical assessment of the article. If it is a review article, you will outline the history and theoretical frameworks outlined in the article and then provide a critical

assessment. You are only preparing these for class discussion purposes and you will not be graded on the writing but only on participation in the ensuing discussion.

(2) PRESENTATIONS (40%). Each student is responsible for creating academic presentations of two weeks' topics (a lecture on the issues covered in the reading material). These lectures will be given during weeks chosen at the beginning of the semester (starting week 3). They should be approximately 20 minutes in length (time it beforehand). Students should either type up lecture notes or use Power point software because the presentation will be turned in and graded. Each student attending the presentation will have completed the reading and created a critical summary so everyone will be prepared to discuss the readings after the presentations.

(3) FINAL RESEARCH PAPER (30%). We will discuss this in more detail in week 1 but basically you will write a research paper on a topic chosen from among those covered in this class. This paper will begin with a thesis (your own idea about this topic) and will include a discussion of theoretical work done on this topic. Students will use a minimum of 10 sources that relate to your topic (at least 2 books, monographs, or edited volumes and 8 articles from peer-reviewed journals. One of these articles will preferably be a recent "review" article). The paper will be a minimum of 15 pages and a maximum of 20 pages in length (standard margins, 11 point Times New Roman, or similar font, 1.5 spaces between lines of text, pages numbered, name and date in upper right corner of every page). Your writing should be organized and concise.

Your paper will be peer reviewed by 2 members of the class twice. In turn, you will review 2 papers 2 times. Peer review means you will read your colleague's paper with a very critical eye and write a detailed list of comments to help them improve their paper. You will also write marginal comments on the paper itself. Comments will focus first on grammar, spelling, etc. Then you will go back through and examine the effectiveness of the analysis, organization of ideas, and the depth of thought that has gone into the paper. You will return papers and comments to the author on the assigned days (below). On those days you will come prepared to discuss in small groups the papers you read and the comments you made. Between review sessions, you will have almost two weeks to substantially revise your paper based on the comments you received. Papers submitted for the second round of peer review must have attached a statement indicating how all reviewer comments were addressed or why you did not change the paper based on a given comment. In the second round of review, peer reviewers must indicate in their review whether or not the second draft effectively addresses their comments and make further suggestions for improvement. Papers will again be discussed in small groups in class.

When you turn in your final paper, you will create a portfolio with a copy of the first and second draft, all of the reviewers comments you received, all of your responses to those comments, and all of the reviews that you wrote. Your final grade will reflect the quality of your paper (40%) and your work on the review and revision process (40%).

Make-up Policy

There are no exams in this course. Because the entire class is depending upon you for your class presentations, critical summaries, and peer reviews, these assignments cannot be made up. If you miss class due to a severe illness, injury, or family emergency, you are required to notify me by telephone, by email, or in person prior to the scheduled time. An acceptable excuse is a **signed statement from a physician** or some evidence of a personal or family crisis. If you have a legitimate severe illness, injury,

or family emergency, you will be allowed to complete an extra assignment for credit (TBD by instructor). Otherwise, you will not be allowed to make up assignments.

Grades in the course are assigned to the following scales, based on percentages:

A	93 - 100%
A-	90 – 92%
B+	87 – 89%
B	83 – 86%
B-	80 – 82%
C	70 - 79%
D	60 - 69%
F	< 60%

Office Hours

I have 6 office hours per week and you are welcome to come by my office. If my regular office hours are not compatible with your schedule, please make an appointment. I encourage students to meet with me. I feel that professor-student contact and communication are very important and allow for more detailed discussion. Please come see me to talk about any questions you might have about reading or lecture material, to discuss plans/questions you might have about becoming an anthropology major/graduate student, or to evaluate ideas you might have about research in biological anthropology.

Academic Integrity Code

Appalachian State University's Academic Integrity Code is designed to create an atmosphere of trust, respect, fairness, honesty, and responsibility. The Academic Integrity Code outlines "user-friendly" procedures and mechanisms for resolving alleged violations of academic integrity. The Academic Integrity Code is the result of cooperation among Appalachian's faculty, students, and administrators, and promotes a campus dialogue about academic integrity. All members of the Appalachian State University community are responsible for promoting an ethical learning environment.

When applying for admission to Appalachian State University, students agree to abide by the following Code:

- Students will not lie, cheat, or steal to gain academic advantage.
- Students will oppose every instance of academic dishonesty.

Disability Services

Appalachian State University is committed to making reasonable accommodations for individuals with documented qualifying disabilities in accordance with the Americans with Disabilities Act of 1990, and Section 504 of the Rehabilitation Act of 1973. If you have a disability and may need reasonable accommodations in order to have equal access to the University's courses, programs and activities, please contact the Office of Disability Services (828.262.3056 or www.ods.appstate.edu). Once registration is complete, individuals will meet with ODS staff to discuss eligibility and appropriate accommodations."

Attendance Policy

5.5.1.1 It is the policy of Appalachian State University that class attendance is an important part of a student's educational experience. Students are expected to attend every meeting of their classes and are responsible for class attendance. Since attendance policies vary from professor to professor, students should refer to the course syllabus for detailed information. Regardless of what reasons there may be for absence, students are accountable for all academic activities, and faculty may require special work or tests to make up for the missed class or classes.

In addition, faculty members are required to make reasonable accommodations for students requesting to miss class due to the observance of religious holidays. All ASU students are allowed a minimum of two absences per year for religious observances. Up to two absences for such observances will be excused, without penalty to the student, provided that the student has informed the instructor in the manner specified in the syllabus. Notice must be given by the student to the instructor before the absence occurs and no later than three weeks after the start of the semester in which the absence(s) will occur. Arrangements will be made to make up work missed by these religious observances, without penalty to the student. For the purposes of this policy, ASU defines the term "religious observance" to include religious holidays, holy days, or similar observances associated with a student's faith that require absence from class.

Faculty, at their discretion, may include class attendance as a criterion in determining a student's final grade in the course. On the first day of class, faculty must inform students of their class attendance policy and the effect of that policy on their final grade; both policies must be clearly stated in the class syllabus. In this course, attendance is not recorded. If you do not come to class, you cannot do well in the course but I will not be including attendance as part of your final grade.

Statement on Student Engagement with Courses

In its mission statement, Appalachian State University aims at "providing undergraduate students a rigorous liberal education that emphasizes transferable skills and preparation for professional careers" as well as "maintaining a faculty whose members serve as excellent teachers and scholarly mentors for their students." Such rigor means that the foremost activity of Appalachian students is an intense engagement with their courses. In practical terms, students should **expect to spend two to three hours of studying for every hour of class time**. Hence, a fifteen hour academic load might reasonably require between 30 and 45 hours per week of out-of-class work.

Please see website for course schedule.

http://www.appalachianbioanth.org/syllabi_fall.html

The following articles listed in the syllabus are available online at
http://www.appalachianbioanth.org/syllabi_fall.html

- Trevathan “Evolutionary Medicine”
- Hill and Kaplan “Life History Traits in Humans: Theory and Empirical Studies”
- Gould and Lewontin “The Spandrels of San Marco and the Panglossian Paradigm: a critique of the Adaptationist Programme”
- Witzig “The Medicalization of Race: Scientific Legitimization of a Flawed Social Construct”
- Holden “Race and Genomic Medicine”
- Relethford “Genetics of Modern Human Origins and Diversity”
- Lovejoy “Developmental Biology and Human Evolution”
- Weiss “Coming to terms with Human Variation”
- Jablonski “The Evolution of Human Skin and Skin Color”
- Varki and Nelson “Genomic Comparisons of Humans and Chimpanzees”
- O’Rourke “Ancient DNA Studies in Physical Anthropology”
- Beall “Adaptations to Altitude: a current assessment”
- Ruff “Variation in Humna Body Size and Shape”
- Williams and Nesse “The Dawn of Darwinian Medicine”
- Larsen “Biological Changes in Human Populations with Agriculture”
- McDade “The Ecologies of Human immune Function”
- Hutchinson “The Biology and Evolution of HIV”
- Ungar “Diet in Early Homo: a review of the evidence and a new model of adaptive versatility”
- Ulijaszek and Lofink “Obesity in Biocultural Perspective”
- Aiello and Wells “Energetics and the Evolution of the Genus Homo”
- Malina and Little “Physical Activity: the present and the context of the past”
- Gluckman “Early Life Events and their Consequences for Later Disease: a life history and evolutionary perspective”
- Voland “Evolutionary Ecology of Human Reproduction”
- Bogin “Evolutionary Perspective on Human Growth”
- Temple “What can Variation in Stature Reveal about Environmental Differences Between prehistoric Jomon Foragers? Understanding the Impact of Systemic Stress on Developmental Stability”
- Graves “A Reassessment of Sexual Dimorphism in Human Senescence: Theory, evidence, and causation”
- Allen “The Aging Brain: the cognitive reserve hypothesis and hominid evolution”
- Hoppa “The Once and Future Paleodemography” available at <https://tspace.library.utoronto.ca/citd/Osteology/Hoppa.html>
- McCaa “Calibrating Paleodemography: the uniformitarian challenge turned” available at <http://www.hist.umn.edu/~rmccaa/paleo98/index0.htm>

Examples of Relevant Literature (these are articles on theory that may help with your papers)

- Darwin C. 1859. Natural selection (Ch. 4). *On the Origin of Species*.
- Darwin C. 1859. Laws of variation (Ch. 5). *On the Origin of Species*.
- Darwin C. 1859. Recapitulation and conclusion (Ch. 14). *On the Origin of Species*.
- Bowler PJ. 1988. The myth of the Darwinian revolution (Ch. 1). *The Non-Darwinian Revolution: Reinterpreting a Historical Myth*. Baltimore: Johns Hopkins. p. 1-19.
- Bowler PJ. 1988. Darwin's originality (Ch. 2). *The Non-Darwinian Revolution: Reinterpreting a Historical Myth*. Baltimore: Johns Hopkins. p. 20-46
- Goodrum MR. 2004. Prolegomenon to a history of paleoanthropology: The study of human origins as a scientific enterprise. Part 1. Antiquity to the eighteenth century. *Evolutionary Anthropology* 13: 172-180.
- Goodrum MR. 2004. Prolegomenon to a history of paleoanthropology: The study of human origins as a scientific enterprise. Part 2. Eighteenth to the twentieth century. *Evolutionary Anthropology* 13: 224-233.
- Bowler PJ. 2003. The idea of evolution: Its scope and implications (Ch. 1). *Evolution: History of an Idea*. Berkeley: UC Press. p. 1-26.
- Bowler PJ. 2003. The pre-evolutionary worldview (Ch. 2). *Evolution: History of an Idea*. Berkeley: UC Press. p. 27-47.
- Bowler PJ. 2003. Evolution in the Enlightenment (Ch. 3). *Evolution: History of an Idea*. Berkeley: UC Press. p. 48-95.
- Bowler PJ. 2003. Nature and society, 1800-1859 (Ch. 4). *Evolution: History of an Idea*. Berkeley: UC Press. p. 96-140.
- Jepsen GL. 1949. Foreword. In: Jepsen GL (ed.) *Genetics, Paleontology, and Evolution*, Princeton Press. p. v-x.
- Mayr E. 1980. Prologue. In: Mayr and Provine (eds.) *The Evolutionary Synthesis: Perspectives on the Unification of Biology*, Harvard University Press. p. 1-48.
- Davis DD. 1949. Comparative anatomy and the evolution of the vertebrates. In: Jepsen GL (ed.) *Genetics, Paleontology, and Evolution*, Princeton Press. p. 64-89
- Washburn SL. 1951. The analysis of primate evolution with particular reference to the origin of man. *Cold Spring Harbor Symposia on Quantitative Biology* 15: 67-78.
- Mayr E. 1988. How to carry out the adaptationist program (Ch. 9). *Toward a New Philosophy of Biology*. Cambridge: Harvard University Press. p. 148-159.
- Gould SJ, Lewontin RC. 1979. The spandrels of San Marco and the Panglossian paradigm: a critique of the adaptationist program. *Proceedings of the Royal Society of London B* 205: 581-598.
- Meglitsch PA. 1954. On the nature of the species. *Systematic Zoology* 3: 49-65.
- Chandler CR, Gromko MH. 1989. On the relationship between species concepts and speciation processes. *Systematic Zoology* 38: 116-125.
- Mayr E. 1988. The species category (Ch. 19). *Toward a New Philosophy of Biology*. Cambridge: Harvard University Press. p. 315-334.
- Mayr E. 1988. The ontology of the species taxon (Ch. 20). *Toward a New Philosophy of Biology*. Cambridge: Harvard University Press. p. 335-358.
- Eldredge N, Gould SJ. 1972. Punctuated equilibrium: An alternative to phyletic gradualism. In: Schopf TJM (ed.) *Models in Paleobiology*. Freeman, Cooper & Co., San Francisco. p. 82-115

- Jackson JBC, Cheetham AH. 1994. Phylogeny reconstruction and the tempo of speciation in Cheilostome Bryozoa. *Paleobiology* 20: 407-423.
- Mayr E. 2001. Speciation (Ch. 9). *What Evolution Is*. New York: Basic Books. p. 174-187.
- Mayr E. 2001. Macroevolution (Ch. 10). *What Evolution Is*. New York: Basic Books. p. 188-232.
- Darwin C. 1872. Principles of sexual selection (Ch. 8). *The Descent of Man*.
- Darwin C. 1872. General summary and conclusion (Ch. 21). *The Descent of Man*.
- Freeman S, Herron JC. 2004. Sexual selection. *Evolutionary Analysis* (3rd Edition). Prentice Hall. p. 373-418.
- Hager L. 1997. *Women in Human Evolution*. New York: Routledge.
- Nesse RM, Williams GC. 1994. Are mental disorders diseases? *Why We Get Sick: The New Science of Darwinian Medicine*. New York: Times Books. p. 207-233.
- Eaton SB, Eaton SB III, Konner MJ. 1999. Paleolithic nutrition revisited. In: Trevathan WR et al. (eds.) *Evolutionary Medicine*. New York: Oxford University Press. p. 313-332.
- Gottlieb G. 1992. Evolution: The Modern Synthesis and its failure to incorporate individual development into evolutionary theory (Ch. 11). *Individual Development and Evolution*. New York: Oxford University Press. p. 120-136.
- Hall BK. 2003. Evo-Devo: Evolutionary developmental mechanisms. *International Journal of Developmental Biology* 47: 491-495.
- West-Eberhard MJ. 2005. Phenotypic accommodation: Adaptive innovation due to developmental plasticity. *Journal of Experimental Zoology (Mol Dev Evol)* 304B: 610-618.
- Ellison P. 2001. *On fertile ground: A Natural History of Human Reproduction*. Massachusetts: Harvard University Press.
- Stearns SC. 1976. Life history tactics: A review of the ideas. *Quarterly Review of Biology* 51: 3-47.
- Charnov. 1991. Evolution of life history variation among female mammals. *PNAS* 88: 1134-1137.
- Hill K, Hurtado AM. 1996. *Ache Life History*. New York: Aldine de Gruyter. p. 1-40.