

ANT 475/575: Biology, Culture and Evolution

Spring 2012

Mondays, Wednesdays & Fridays, 11:00 – 11:50am, 23 ten Hour

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Prerequisites:

ANT 475: ANT 270 or permission of instructor

ANT 575: graduate student in anthropology or permission of instructor

Course Description

This course provides a detailed introduction to the study of how humans adapt to their physical, biological, and social environment.

Objectives

Course Objectives and Student Learning Outcomes:

At the end of this course students should be able to:

1. Review, evaluate, and criticize adaptive models from ecology, demography, genetics, physiology, nutrition, and medicine.
2. Outline theoretical and methodological issues in the anthropological study of human adaptation through case studies in various populations.
3. Proficiently write a scientific research paper by searching for a topic, finding and critically reviewing source material, outlining the paper, and then writing and revising the manuscript.

This course carries "W" designation. Therefore, writing proficiency is required for a passing grade. Each writing assignment (see below) requires carefully edited prose and will be graded for intellectual content, originality, comprehension of reading material, coherence, logic, organization, grammar, punctuation, spelling, and prose style. Writing proficiency is an absolute requirement for passing this course. Students with writing difficulties will be encouraged to take advantage of the services of the Writing Center. (While the "W" designation does not apply to the graduate level course, the same expectation for writing proficiency applies.)

Outline of Topics Covered During the Semester

Part I: Theory and Methods in Human Evolutionary Biology

- 1 1/11 Review of evolutionary theory
- 2 1/13 Review of evolutionary theory, con't.
 Read: HEB Chapter 1 (Futuyma)
- 3 1/18 History of the anthropological and biocultural study of human biology
 Read: HEB Chapter 3 (Little)
 Guest lecturer: Dr. Jim Bindon
 FINDING RELIABLE SOURCES ASSIGNMENT DUE
- 4 1/20 Extended Discussion: Evolutionary Theory and History
- 5 1/23 The adaptation concept
 Read: HEB Chapter 2 (Frisancho)
- 6 1/25 Adaptation, continued
 PAPER TOPIC DUE
- 7 1/27 Extended Discussion: The Adaptation Concept
- 8 1/30 Demography
 Read: HEB Chapter 5 (Jones)
- 9 1/1 Anthropometry
 Read: HEB Chapter 6 (Cameron and Jones)
- 10 1/3 Demonstration/Lab: Anthropometry
- 11 2/6 Energy expenditure and body composition
 Read: HEB Chapter 7 (Davies and Murphy)
- 12 2/8 Evolutionary endocrinology
 Read: HEB Chapter 8 (Bribiecas and Muehlenbein)
 PAPER OUTLINE DUE
- 13 2/10 Demonstration/Lab: Energy Expenditure and Endocrinology

Part II: Phenotypic Variation, Reproduction

- 14 2/13 Climatic and nutritional influences on human body morphology
 Read: HEB Chapter 10 (Leonard and Katzmarzyk)
- 15 2/15 Human adaptation to high altitude
 Read: HEB Chapter 11 (Brutsaert)
- 16 2/17 Extended Discussion: Climate and Nutrition
- 17 2/20 Skin coloration
 Read: HEB Chapter 12 (Jablonski)

- 18 2/22 Critically examining the race concept
Read: The following article, which will be provided electronically:
Brown, R.A., Armelagos, G.J. 2001. Apportionment of racial diversity: a review. *Evolutionary Anthropology* 10: 34-40.
- 19 2/24 Extended Discussion: Skin Coloration and Race
TAKE-HOME MIDTERM EXAM DISTRIBUTED
- 20 2/27 Evolution of human behavior
Read: HEB Chapter 16 (Gray)
- 21 2/29 Human mate choice
Read: HEB Chapter 17 (Schmitt)
- 22 3/2 Extended Discussion: Reproductive Behavior and Mate Choice
TAKE-HOME MIDTERM EXAM DUE
- 23 3/5 Ovarian function
Read: HEB Chapter 19 (Jasienska)
- 24 3/7 Pregnancy and lactation
Read: HEB Chapter 20 (Pike and Milligan)
- 25 3/9 Extended Discussion: Women's Reproduction
- 26 3/19 Male reproduction
Read: HEB Chapter 21 (Muehlenbein and Bribiescas)
- 27 3/21 Male reproduction, con't.
- 28 3/23 Extended Discussion: Wrap-up, Variability and Reproduction
TERM PAPER DUE

Part III: Growth and Development

- 29 3/26 Evolution of human growth
Read: HEB Chapter 22 (Bogin)
- 30 3/28 Environmental variation and human growth
Read: HEB Chapter 23 (Ulijaszek)
- 31 3/30 NO CLASS – Dr. DeCaro out of town
PEER REVIEW DUE
- 32 4/2 Hormonal responses to social challenges
Read: HEB Chapter 24 (Flinn)
- 33 4/4 Embodied capital and extrasomatic wealth
Read: HEB Chapter 26 (Lancaster and Kaplan)
- 34 4/6 Extended Discussion: Growth & Development

Part IV: Health and Disease

- 35 4/9 Industrial pollution
Read: HEB Chapter 33 (Schell)
- 36 4/11 Human longevity and senescence
Read: HEB Chapter 31 (Crews)
- 37 4/13 Extended Discussion: Senescence
- 38 4/16 Metabolic syndrome and brain evolution
Read: HEB Chapter 27 (Kuzawa)
- 39 4/18 Acculturation and health
Read: HEB Chapter 34 (McDade and Nyberg)
- 40 4/20 Extended Discussion: Acculturation and Health
TERM PAPER REVISION DUE
- 41 4/23 Public health paradoxes
Read: The following article, which will be provided electronically:
Worthman, C.M., Kohrt, B. 2005. Receding horizons of health: biocultural approaches to public health paradoxes. *Social Science & Medicine* 61: 861-878.
- 41 4/25 Public health paradoxes, con't.
- 41 4/27 Extended Discussion: Public Health Paradoxes

FINAL EXAM: Monday, April 30, 8-10:30am

Attendance Policy

Class Attendance and Participation: This is a discussion-oriented class and attendance is required. Attendance will be monitored; unexcused absences will lower your grade. Classroom participation is an important requirement of the course and it will figure in the final grade.

Number & Timing of Major Assignments

1. Advance Discussion Questions. For each class when a reading is due, post on eLearning a brief commentary about the reading *no later than 10:00 AM on the day of the class*. First, use about one paragraph to briefly describe what you found most interesting about the reading, and anything that you would like clarified or further explained. Then, pick one of the questions from the authors that you'll find at the end of each chapter, and use about one more paragraph to address it. There is no need for a comprehensive summary of the reading. However, your commentary should make it clear that you read and thought about the chapter.

NOTE: These discussion questions are not graded as writing assignments. They are marked “check-plus/check/check-minus” based on completion and effort, rather than writing quality. (Although they should be understandable!)

2. Finding Reliable Sources Exercise. You will pick some question of interest in human adaptability and use Google, Pubmed, Anthropology Plus, or other online databases to find 8 different online sources of information about it. Of these, 6 should be excellent, credible sources of the type you could use in a term paper. The other 2 should be poor sources of doubtful credibility. You will then provide a write-up including: (1) reference information that will allow me to easily find each source (including exact URLs); (2) a description of each source; (3) a description of how you found each source; and, (4) an explanation of why each source is good or poor. This assignment is due on 1/18.
3. Term paper. You will write a paper on a pre-approved topic, using at least eight reliable, appropriate academic references. You will be required to submit a proposed topic by 1/25, an outline of the paper by 2/8, and the completed paper by 3/23. The paper should be 8-12 pages long, double spaced in 12-point Times New Roman font, with 1” margins. The page guidelines do *not include* the reference list, which must be appended to the end of the paper. The paper will be graded for intellectual content, originality, comprehension of reading material, coherence, logic, organization, grammar, punctuation, spelling, and prose style. You will receive a comprehensive style guide in class. Adherence to this style guide is required, and will be reflected in your grade.
4. Peer review and term paper revision. You will complete a revision to the term paper based on feedback from Dr. DeCaro *and* feedback from one other student in the class. The revision will be graded using the criteria listed above, with the added requirement that revisions take comments into account. A portion of your term paper revision grade will be based on providing constructive, thoughtful comments on another student’s paper. The peer review is due on 3/30, and the term paper revision on 4/20.
5. Midterm exam. You will have an open-book, open-notes, take home midterm exam. All questions will be essay questions. This exam will be graded as a writing assignment. Therefore, the exam will be graded for intellectual content, originality, comprehension of reading material, coherence, logic, organization, grammar, punctuation, spelling, and prose style. The midterm is distributed on 2/24 and due on 3/2.
6. Final exam. You will have an open-book, open-notes final exam at the regularly scheduled time during finals week. All questions will be essay questions. The exam is comprehensive, although it will focus more on the material covered after the midterm. Given the limited time allowed to

complete the exam (2½ hours), the primary grading criteria will be comprehension of the reading material and intellectual content, rather than punctuation, grammar, etc. However, if your writing is poorly organized or difficult to understand, this will negatively affect your grade.

Additional Expectations for Graduate Students

There are several additional expectations for students enrolled in this class as ANT 575:

1. The final paper will be 15-20 pages, rather than 8-12 pages.
2. The final exam will be a lengthier take-home final, treated as a writing assignment. Graduate students will not, however, take the in-class final.
3. Graduate students will be asked to select and read an additional article of their choice from current scientific literature, which is related to the topic of each day's class session, in advance of each class that has an assigned reading. Appropriate places to look for such material might be *American Journal of Physical Anthropology*, *American Journal of Human Biology*, and *Annals of Human Biology* (although there are other places to look as well). Articles selected for this assignment should be original research reports rather than review articles whenever possible, and published within the last 5 years.
4. Graduate student reading commentaries should be longer and more detailed, and should include a discussion of both readings (the one assigned for the entire class, and also the one individually selected.)
5. All assignments will be evaluated according to a standard appropriate for graduate-level coursework.

Grading Policy

Advance Discussion Questions	10%
Class Discussion	10%
Finding Reliable Sources	5%
Term Paper	10%
Term Paper Revision	15%
Midterm Exam	25%
Final Exam	25%

IMPORTANT NOTE: *Because this is a writing course, to pass you MUST receive at least a passing grade the final writing assignment, which is the term paper revision. To receive a passing grade, you will need to show (at minimum) that you write with the skill*

normally required of an upper division student in Anthropology. This is true regardless of how well you do in other aspects of the course!

Policy for Making-Up Missed Course Work

Extensions policy:

1. Advance discussion questions posted after 10:00am but before midnight on the day of class will be accepted for half credit. After that, no advance discussion questions will be taken *for any reason*. Advance discussion questions must be submitted on time even if you were excused from class. However, two missed advance discussion questions will be dropped from your grade (or, if none are missed, the two lowest grades will be dropped). Save these “free misses” to take care of emergencies that might arise.
2. Your finding reliable sources exercise, topic, outline, term paper, peer review, and term paper revision must be submitted electronically by midnight on the day they are due for full credit. After that, except by prior arrangement and with a very good reason, assignments will lose 10% credit off of the maximum of 100% for each day (or part of a day) they are late. Many assignments being due at the same time is *never* a good reason, and extensions will not be authorized on that basis. If your topic or outline is late, the 10% reduction will come off your maximum grade for the term paper. (Note: Instead of a 10% reduction, if the peer review is not submitted on time you will receive no credit for that portion of your term paper revision grade. Your fellow students depend on receiving this feedback on time so they can complete their own revisions, so no extensions will be approved.)
3. Your take-home midterm exam must be submitted electronically by midnight on the day it is due. The midterm will not be accepted late except by prior arrangement and with a very good reason. Given that you have a full week to complete the midterm, there are very few emergencies that should prevent you from submitting the midterm on time. Multiple midterms being due during the same week is not a good reason – you need to plan in advance for this. Unauthorized late midterm exams receive zero credit.
4. The final exam date and time are set by the university. You must appear at the correct date and time.

Required Course Material

Muehlenbein, M. P. (ed.) 2010. *Human Evolutionary Biology*. New York: Cambridge University Press.

Academic Dishonesty Policy

All acts of dishonesty in any work constitute academic misconduct. This includes, but is not limited to, cheating, plagiarism, fabrication of information, misrepresentations, and abetting of any of the above. The Academic Misconduct Disciplinary Policy will be followed in the event that academic misconduct occurs. Students should refer to the Student Affairs Handbook, which can be obtained in the Office of Student Life and Services in the Ferguson Center

Disability Policy

If you are registered with the Office of Disability Services, please make an appointment with me as soon as possible to discuss any course accommodations that may be necessary. If you have a disability but have not contacted the Office of Disability Services, please call 354-5175 or visit Osband Hall to register for services.