

ANT 670: Principles of Physical Anthropology

Wednesday 1:00 – 3:30pm, 21 ten Hour

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Prerequisites:

Graduate student in Anthropology.

Course Description

This course provides a survey of the major branches in physical (biological) anthropology. Following an introduction that focuses on the history of the discipline as a whole and basic principles of evolutionary history, the course is divided into three parts. The first part is a survey of contemporary human biology research, including genetics, adaptation, energetics, growth & development, demography, and population health. The second part focuses on comparative research concerning the behavior and ecology of our nearest relatives, the non-human primates. The third part is a quick tour through human evolutionary history, beginning with the Miocene Hominoids and ending with the emergence of modern *Homo sapiens*. Students are expected to leave with an appreciation of the diversity of scholarship conducted under the banner of “physical anthropology,” and the importance of certain unifying concepts, particularly biocultural investigation and the central role of evolutionary theory.

Objectives

Course Objectives and Student Learning Outcomes:

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

1. Outline the history of the discipline of physical anthropology, including major historical figures and their contributions, intellectual trends, and major controversies.
2. Understand evolutionary theory well enough to address new and unfamiliar evolutionary problems using “first principles.”
3. Outline and describe the major branches of contemporary human biology, and identify major applications of human biology research to contemporary issues or debates concerning health, social policy, and human behavior.
4. Identify both commonalities and diversity across non-human primate taxa in social behavior and ecology, and articulate the relevance of primatology to the broader anthropological enterprise.
5. Outline human evolutionary history based on the fossil record.

Outline of Topics Covered During the Semester

- 1 8/19 Introduction: History of the Discipline
 Read: Human Biology Chapter 2 (Johnston & Little)
 Washburn (1953)
 Spencer (1981)

- 2 8/26 Principles of Evolutionary Theory & the Modern Synthesis
 Read: Human Biology Chapter 1 (Huss-Ashmore)
 Your Text: Evolutionary Theory, Genetics, Cell Biology Chapters

Part I. Contemporary Human Biology

- 3 9/2 Genetics & Genomics
 Read: Human Biology Chapter 3 (Weiss)
 Human Biology Chapter 4 (O'Rourke)
 Human Biology Chapter 5 (Konigsberg)
 Your Text: Human Variation Chapter
 TERM PAPER TOPICS DUE

- 4 9/9 Adaptation & Energetics
 Read: Human Biology Chapter 6 (Beall & Steegmann)
 Human Biology Chapter 9 (Leonard)
 Human Biology Chapter 10 (Ulijaszek)
 Your Text: Human Adaptation Chapter

- 5 9/16 Growth & Development
 Read: Human Biology Chapter 11 (Bogin & Smith)
 Human Biology Chapter 12 (Stinson)
 Human Biology Chapter 13 (Harper & Crews)
 Kuzawa (2005)
 TERM PAPER ABSTRACTS DUE

- 6 9/23 Demography
 Read: Human Biology Chapter 14 (Gage)
 Human Biology Chapter 15 (Ellison & O'Rourke)

- 7 9/30 Epidemiology & Population Health
 Read: Human Biology Chapter 7 (Sattenspiel)
 Human Biology Chapter 8 (Jackson)
 Worthman and Kohrt (2005)

- 8 10/7 Paleopathology, Bioarchaeology, and Paleodemography
 Read: Wood et al. (1992)
 Goodman (1993)
 Cook and Powell (2006)
 Steckel (1987)
 TAKE HOME MIDTERM DISTRIBUTED

Part II. Primate Behavior, Ecology & Biology

- 9 10/14 Primate Social Behavior & Cognition
 Read: Primate Anthology Part I Introduction & 2 assigned chapters that
 you will present to the class
 Your Text: Primate Behavior/Ecology chapter(s)
 TAKE HOME MIDTERM DUE BY MIDNIGHT
- 10 10/21 Primate Ecology
 Read: Primate Anthology Part II (intro & all chapters)
- 11 10/28 Primate Diet & Reproduction
 Read: Primate Anthology Part III (intro & all chapters)

Part III. Primate & Human Evolution in the Fossil Record

- 12 11/4 Primate Evolution (& catch-up, as needed)
 Read: Human Evolution Source Book Chapter 9
 Your Text: Primate Evolution chapter
 TERM PAPER DUE BY MIDNIGHT
- 13 11/11 Early Hominins through the Emergence of Genus Homo
 Read: Human Evolution Source Book Parts II & III Introductions,
 Chapter 10, Chapter 16, and 2 assigned chapters that you will
 present to the class
 Your Text: Early Hominins chapter(s)
- 14 11/18 The Emergence of Genus Homo and Homo erectus
 Read: Human Evolution Source Book Chapter 26, Chapter 34, Chapter
 46, Parts IV, V, and VI Introductions, and 2 assigned chapters
 that you will present to the class
 Your Text: Genus Homo chapter(s)
- 15 12/2 Neandertals and *Homo sapiens*
 Read: Human Evolution Source Book Parts VII, VIII, and IX
 Introductions, Chapter 53, Chapter 59, Chapter 68, and 2
 assigned chapters that you will present to the class
 Your Text: Neandertal and *Homo sapiens* chapter(s)
 TAKE HOME FINAL DISTRIBUTED

..... **TAKE-HOME FINAL DUE 12/9 BY MIDNIGHT**

Attendance Policy

Class Attendance and Participation: This is a discussion-oriented class and attendance is required. Since 40% of your grade for this course is based on participation, and the class meets only 15 times, any absences normally will lower

your grade. Please contact Dr. DeCaro in advance if you have some urgent need to be absent from a class session.

Timing of Exams, Assignments and Other Graded Components of the Course

1. Reading Commentaries. For each class except for the first, post on eLearning a one-page typed commentary on the readings *no later than 11:30AM on the day of the class*. The commentary should include a brief summary of the most interesting or important points from the reading(s), and your own thoughts, such as questions that are raised, critiques that you may have, comparison with other readings, points of confusion you'd like cleared up, etc. These will be readable on eLearning by everyone enrolled in the class so that you can see each other's perspectives on the readings. The purpose is to seed the class discussion and get you thinking about the various topics. Therefore, when there are multiple readings assigned for any given class day, you may but are not required to touch on all of them in your commentaries. (Although you should make sure to read them all.)
2. Class Discussion. This is a seminar, and all students are expected to actively participate in classroom discussion. In some cases, not all students will be reading the same chapters, and you may be asked to present the material you read to the rest of the class.
3. Term Paper. You will select a topic on which to write a 15-20 page term paper. Please notify me of your selected topic by 9/2 (subject to approval). You'll provide a one-page abstract of your paper by 9/16. Final papers are due on 11/4, transmitted electronically, by midnight.
4. Midterm Exam. A take-home midterm exam distributed on 10/7 will be due one week later, on 10/14 by midnight. This exam will cover introductory material (history of the discipline/evolutionary history) and human biology.
5. Final Exam. A take-home final exam distributed on 12/2 will be due on 12/9 by midnight. This exam will cover primates & the fossil record.

Grading Policy

Participation: Reading commentaries	20%
Participation: Class Discussion	20%
Term Paper	20%
Midterm Exam	20%
Final Exam	20%

Policy for Making-Up Missed Course Work

Extensions policy:

1. Reading commentaries posted after 11:30 am but before midnight on class day will be accepted for half credit. After that, no reading commentaries will be taken for any reason.

2. Term papers, midterm exams, and final exams will be accepted late only by prior approval. Approval to turn in an exam or paper late will be granted only under extraordinary circumstances, not as a matter of course. Even if you are granted prior approval, a late final exam may result in an Incomplete at least temporarily being on your record for the course, if I do not have time to read and grade it before the grade submission deadline.

Required Course Material

There are three textbooks used in this course:

Ciochon, R. L., and Fleagle, J. G., eds. 2005. *The Human Evolution Source Book*, 2nd edition. Prentice Hall. ISBN 0130329819.

Ciochon, R. L., and Nisbett, R. A., eds. 1997. *The Primate Anthology: Essays on Primate Behavior, Ecology and Conservation from Natural History*. Prentice Hall. ISBN 0136138454.

Stinson, S., Bogin, B., Huss-Ashmore, R. and O'Rourke, D., eds. 2000. *Human Biology: An Evolutionary and Biocultural Perspective*. Wiley Liss. ISBN 0471137464.

Additionally, a variety of introductory Physical Anthropology textbooks will be made available for you to borrow. Unless you have a recent textbook already (that is, published within the last 3 years or so), please select one of these. You will use the textbook to help fill in gaps in your general background knowledge of physical anthropology as needed. Since each textbook differs slightly in the organization of chapters, the readings listed under "Your Text" above are just general guidelines. Use your own judgment as to which sections of your intro text would be most helpful in comprehending the course material for any given class session.

All assigned readings that do not come from one the textbooks will be made available electronically.

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.

Bibliography of Required Readings (other than the textbooks)

Cook, Della Collins and Powell, Mary Lucas. 2006. The evolution of American paleopathology. In Jane E. Buikstra and Lane A. Beck, eds. *Bioarchaeology: The Contextual Analysis of Human Remains*, pp. 281-322.

Goodman, Alan H. 1993. On the interpretation of health from skeletal remains. *Current Anthropology* 34(3):281-288.

Kuzawa, Christopher W. 2005. Fetal origins of developmental plasticity: Are fetal cues reliable predictors of future nutritional environments? *American Journal of Human Biology* 17:5-21.

Spencer, Frank. 1981. The rise of academic physical anthropology in the United States (1880-1980): A historical overview. *American Journal of Physical Anthropology* 56(4):353-364.

Steckel, R. H. 1987. Growth depression and recovery: The remarkable case of American slaves. *Annals of Human Biology* 14:111-132.

Washburn, Sherwood L. 1953. The strategy of physical anthropology. In A. L. Kroeber, ed., *Anthropology Today*. Chicago: University of Chicago Press. Pp.714-726.

Worthman, Carol M., and Kohrt, Brandon. 2005. Receding horizons of health: biocultural approaches to public health paradoxes. *Social Science and Medicine* 61(4):861-878.

Wood, James W., George R. Milner, Henry C. Harpending, and Kenneth M. Weiss 1992. The Osteological Paradox: Problems of Inferring Prehistoric Health from Skeletal Samples. *Current Anthropology* 33(4):343-370.