AANT 502: PROSEMINAR IN PHYSICAL ANTHROPOLOGY
SPRING 2022 (CLASS 6666)
MONDAY 4:30-7:20, AS 243

Instructor: Adam Gordon
Office: AS 246
Email: agordon@albany.edu
Office hours: Wednesdays, 9:30 to 11:30 am or by appointment. I will be holding office hours over Zoom, not in person. Here's the link: https://albany.zoom.us/j/94183920891?pwd=dkYrZXo2SFZERkhwam1oZDlEOHIrZz09
Please note that the best way to reach me is to attend office hours. The next best way is by email. However, please be aware that I receive a large volume of email, so I will not be able to respond right away.

COURSE DESCRIPTION

Nearly all academic disciplines rely on an underlying body of theory, and physical anthropology (or biological anthropology as it is now more commonly known) is no exception. In this course we will read and discuss seminal works in the modern evolutionary synthesis, as well as works that apply that body of theory specifically to biological anthropology. In addition, the last few weeks of the course will be made up of guest lectures from our department's biological anthropology faculty to provide students with an overview of the basics of their particular areas of study within the discipline.

This course will use a discussion format, and you and your fellow students are responsible for leading and participating in the discussions. Do not expect to be passive note-takers. This course will be enjoyable and successful for you only if every student actively participates. Read every assigned reading closely and be prepared to comment on all of them during every class. There is a large amount of reading for this course, and everyone is expected to do all of it!

The prerequisite for this course is graduate standing in the Department of Anthropology or permission of the instructor.

REQUIRED READINGS

- Darwin, Charles. 1859. *On the Origin of Species*. **(The 6th edition is available online for free at http://www.gutenberg.org/ebooks/2009)**
- Dawkins, Richard. 1976. *The Selfish Gene*.
- Huxley, Thomas. 1863. *Evidence as to Man's Place in Nature*. **(available for free online in three parts at http://www.gutenberg.org/ebooks/2931, http://www.gutenberg.org/ebooks/2932, and http://www.gutenberg.org/ebooks/2933)**
- Mayr, Ernst. 1982. *The Growth of Biological Thought: Diversity, Evolution, and Inheritance*.
- McCalman, Iain. 2010. *Darwin's Armada*.
- Mendel, Gregor. 1866. Versuche über Pflanzen-Hybriden. *Verh. Naturforsch. Ver. Brünn* 4: 3–47 (in English in 1901, Experiments in Plant Hybridisation. *J. R. Hortic. Soc.* 26: 1–32). **(available for free online at http://www.mendelweb.org/Mendel.html)**

Additional readings will be assigned for the guest lectures towards the end of the semester; we will discuss this in more detail on the first day of class.

In addition, if you're unfamiliar with the four forces of evolution or want a quick refresher, I'd suggest checking out the following site and reading through until the section on Microevolution (about the first 20 pages): https://evolution.berkeley.edu/evolution-101/mechanisms-the-processes-of-evolution/.

GRADING

Formal grading is a University requirement and helps students to evaluate how well they have synthesized information and identifies areas that need work. This course uses the A-E grade system. Your final grade is determined based on two components:

- Class Participation (50%): Participation is essential for a successful seminar. Grading will be based upon the information volunteered and presented, considering both the content of the discussion and quality of questions asked. For each class, you will be asked to reflect upon the readings and to identify the most important or meaningful research issues that emerge from them.
- Exam (50%): A take-home final exam will be modeled after a departmental comprehensive exam. Directions will accompany the exam. It is due **May 6th**.

COURSE WEBSITE

The course website can be found on Blackboard. Readings and announcements may be posted there. Check the website regularly for announcements about changes to office hours, readings, or anything else important.

COURSE STRUCTURE

This course is split into two parts. The first part of the course will focus on foundational readings for the discipline of biological anthropology, and the second part consists of a series of guest lectures by the department's biological anthropology faculty on their areas of expertise. Readings will be assigned for every class, and all students are expected to read all of the material for every class. In addition, every week each student will be assigned a subset of the week's reading for which they will be responsible for identifying important topics for discussion. We will begin each class in the first half of the course by writing these topics on the board to use as a starting point to select topics for class discussion. In the second part of the course, class style will likely vary by guest lecturer, but all students will be expected to have completed the assigned reading and be prepared to engage in discussion on the material.

ATTENDANCE

Attendance is mandatory. Reading all of the assigned material is necessary but not sufficient to succeed in a graduate seminar – the point of a graduate seminar is the discussion with the rest of the class and the professor about how the readings intersect with other aspects of the field, with each other, and with other relevant topics brought into the discussion. I will allow one absence without penalty. Beyond the first absence I will deduct the corresponding proportion of the class participation grade; e.g., if a total of two out of fourteen class meetings are missed, the student will lose one-fourteenth of the class participation grade. That said, if you know in advance that you will need to miss one or more classes due to religious observances or professional conferences, please talk to me about it as soon as possible in the semester so that I can accommodate you. Please be aware that even if you miss class you are still expected to complete all of the readings for all classes because we will refer back to earlier readings in later classes. If you are a student with a registered disability, please refer to the "Students with Disabilities" section below.

ACADEMIC INTEGRITY

Academic dishonesty of any kind will not be tolerated in this course. Academic dishonesty includes, but is not limited to, cheating, plagiarizing, fabricating information or citations, facilitating acts of academic dishonesty by others, submitting work of another person or work previously used without informing the instructor, or tampering with the academic work of other students. Students who are found to be academically dishonest will receive academic sanctions as outlined in the university's Graduate Regulations and Degree Requirements:

http://www.albany.edu/graduatebulletin/requirements_degree.htm#penalties

STUDENTS WITH DISABILITIES

If you require a disability-related academic accommodation for this class, please register with Disability Access and Inclusion Student Services (DAISS) as soon as possible and ask them to communicate with me regarding any reasonable accommodation for the course or instructions about physical access. Please be aware that DAISS will communicate directly with me regarding any modifications to the course absence policy for a specific student, and in the absence of such communication DAISS has instructed faculty to follow the stated absence policy in the course syllabus. For more information about "reasonable accommodation", please see DAISS's Reasonable Accommodation Policy:

http://www.albany.edu/disability/docs/RAP.pdf

OTHER RESOURCES

If you feel stressed or overwhelmed, please know that you are not alone. The University offers many different resources to help you academically and personally. They include, but are not limited to:

- Graduate Student Resources: https://www.albany.edu/graduate/resources-current-students
- Counseling and Psychological Services: https://www.albany.edu/counseling_center/index.shtml
- Behavioral Health: https://www.albany.edu/behavioralhealth/
- Survivors of Sexual Violence:
  - https://www.albany.edu/titleIX/resources-for-victims-survivors.php
  - https://www.albany.edu/advocacycenter/
- Office of Intercultural Student Engagement: https://www.albany.edu/multicultural/programs.php
- Gender and Sexuality Resource Center: https://www.albany.edu/lgbt/index.php

COURSE SCHEDULE

Note that this schedule is subject to change.

WEEK	READINGS
1: 1/24	Introduction to course (no readings)
2: 1/31	Mayr, *The Growth of Biological Thought*, Introductory chapters and Section I
3: 2/7	Mayr, *The Growth of Biological Thought*, Section II
4: 2/14	Darwin, *On the Origin of Species*
5: 2/21	Huxley, *Evidence of Man's Place in Nature*
6: 2/28	McCalman, *Darwin's Armada*
7: 3/7	Mendel, *Experiments in Plant Hybridisation* Mayr, *The Growth of Biological Thought*, Section III
8: 3/14	**NO CLASS** **(SPRING BREAK)**
9: 3/21	Dawkins, *The Selfish Gene*
10: 3/28	Readings on American physical anthropology and race: • Little MA, Kennedy KAR. 2010. Introduction to the history of American physical anthropology. In MA Little & KAR Kennedy (Eds.), *Histories of American Physical Anthropology in the Twentieth Century*. pp. 1-23. • Brace CL. 2010. "Physical" anthropology at the turn of the last century. In MA Little & KAR Kennedy (Eds.), *Histories of American Physical Anthropology in the Twentieth Century*. pp. 25-53. • Lewontin RC. 1972. The Apportionment of Human Diversity. In *Evolutionary Biology*. Vol. 20, pp. 381–398. New York, NY: Springer, New York, NY. • Marks J. 2010. Ten Facts about Human Variation. In MP Muehlenbein (Ed.), *Human Evolutionary Biology*. pp. 265–276. • Weiss KM, Fullerton SM. 2005. Racing around, getting nowhere. *Evolutionary Anthropology: Issues, News, and Reviews*. 14:165–169. • Gravlee CC. 2009. How race becomes biology: embodiment of social inequality. *American Journal of Physical Anthropology*. 139:47–57. • Blakey ML. 2021. Understanding racism in physical (biological) anthropology. *American Journal of Biological Anthropology*. 175:316–325. • Fuentes A. 2021. Biological anthropology's critical engagement with genomics, evolution, race/racism, and ourselves: Opportunities and challenges to making a difference in the academy and the world. *American Journal of Biological Anthropology*. 175:326–338. • Fuentes A, Ackermann RR, Athreya S, Bolnick D, Lasisi T, Lee S-H, McLean S-A, Nelson R. 2019. AAPA Statement on Race and Racism. *American Journal of Physical Anthropology*. 169:400–402.
11: 4/4	Guest Instructor: John Rowan • Hill A. 1981. Why study paleoecology? *Nature*. 293:340. • Behrensmeyer AK, Bobe R, Alemseged Z. 2007. Approaches to the analysis of faunal change during the East African Pliocene. In R Bobe, Z Alemseged, & AK Behrensmeyer (Eds.), *Hominin Environments in the East African Pliocene: An Assessment of the Faunal Evidence*. pp. 1-24. • Faith JT, Du A, Behrensmeyer AK, Davies B, Patterson DB, Rowan J, Wood B. 2021. Rethinking the ecological drivers of hominin evolution. *Trends in Ecology & Evolution*. 36:797-807.

	• Patterson DB, Du A, Faith JT, Rowan J, Uno K, Behrensmeyer AK, Braun DR, Wood B. *in press*. Did vegetation change drive the extinction of *Paranthropus boisei*? *Journal of Human Evolution*. DOI: 10.1016/j.jhevol.2022.103154.
12: 4/11	Guest Instructor: Adam Gordon • Otto S. 2008. Sexual reproduction and the evolution of sex. *Nature Education*. 1(1):182. (www.nature.com/scitable/topicpage/sexual-reproduction-and-the-evolution-of-sex-824) • Bull JJ. 2015. Evolution: Reptile sex determination goes wild. *Nature*. 523:43-4. • Clutton-Brock TH, Harvey PH, Rudder B. 1977. Sexual dimorphism, socionomic sex ratio and body weight in primates. *Nature*. 269:797-800. • Jones AG, Ratterman NL. 2009. Mate choice and sexual selection: What have we learned since Darwin? *PNAS*. 106 (suppl. 1): 10001-10008. • Gordon AD. 2013. Sexual size dimorphism in *Australopithecus*: current understanding and new directions. In Reed KE, Fleagle JG, and Leakey RE, eds.: *The Paleobiology of Australopithecus*. Vertebrate Paleobiology and Paleoanthropology Series. Springer. pp.195-212. • Plavcan JM. 2012. Body size, size variation, and sexual size dimorphism in early *Homo*. *Current Anthropology*. 53:S409-S423.
12: 4/18	Guest Instructor: Julia Jennings • Wrigley EA. 1983. Malthus's model of a preindustrial economy. In J Dupaquier, ed. *Malthus Past and Present*. Academic Press. pp. 111–124. • Boserup E. 1976. Environment, population, and technology in primitive societies. *Population and Development Review*. 2:21–36. • Cohen JE. 1995. Population growth and Earth's Human Carrying Capacity. *Science*. 269:341–346. doi:10.1126/science.7618100 • Jennings JA, Quaranta L, Bengtsson T. 2017. Inequality and demographic response to short-term economic stress in North Orkney, Scotland, 1855-1910: Sector differences. *Population Studies*. 71: 313–328. doi:10.1080/00324728.2017.1346196 • Merchant EK. 2021. *Building the Population Bomb*. Oxford: Oxford UP. (Introduction, Chapter 1, and Epilogue)
13: 4/25	Guest Instructor: Lawrence Schell • Schell LM. 1997. Culture as a atressor: a revised model of biocultural interaction. *American Journal of Physical Anthropology*. 102:67-77. • Widdowson EM. 1951. Mental contentment and physical growth. *The Lancet*. 257:1316-1318. • Tanner JM. 1986. Growth as a mirror for the conditions of society: secular trends and class distinctions. In A Demirjian and MB Dubuc, eds.: *Human Growth: A Multidisciplinary Review*. Taylor and Francis. pp. 3-34. • Urlacher SS, Ellison PT, Sugiyama LS, Pontzer H, Eick G, Liebert MA, Cepon-Robins TJ, Gildner TE, and Snodgrass JJ. 2018. Tradeoffs between immune function and childhood growth among Amazonian forager-horticulturalists. *PNAS*. 115:E3914–E3921. https://doi.org/10.1073/pnas.1717522115 • Schell LM, Magnus PD. 2007. Is there an elephant in the room? Addressing rival approaches to the interpretation of growth perturbations and small size. *American Journal of Human Biology*. 19:606-614. • Schell LM, Knutson KL, Bailey S. 2012. Environmental effects on growth. In N Cameron and B Bogin, eds.: *Human Growth and Development*. Elsevier. pp. 245-286.

14: 5/2	Guest Instructor: John Polk • Lauder GV. 1995. On the inference of function from structure. In JJ Thomason, ed.: *Functional Morphology in Vertebrate Paleontology*. Cambridge Univesity Press. pp. 1-18. • Losos JB. 2011. Convergence, adaptation, and constraint. *Evolution*. 65:1827-1840. • Arnold SJ. 1983. Morphology, performance and fitness. *American Zoologist*. 23:347-361. • Alexander RM. 2001. Design by numbers. Nature. 412:591. • Lieberman DE, Pearson OM, Polk JD, Demes B, Crompton AW. 2003. Optimization of bone growth and remodeling in response to loading in tapered mammalian limbs. *The Journal of Experimental Biology*. 206:3125-3138. • Hutchinson JR. 2012. On the inference of function from structure using biomechanical modelling and simulation of extinct organisms. *Biology Letters*. 8:115–118.
15: 5/6	**TAKE-HOME FINAL EXAM DUE**