



ANTHROPOLOGY 2236A-001

Anthropological Perspectives on Human Growth, Development and Aging

Department of Anthropology

Course Outline

Fall 2021

Class day/time: Monday 1:30-4:30 pm

Classroom: AHB-2B02

Instructor: Dr. Andrew Nelson

Office: SSC 3410 or 3323

Office hours: Wednesday 3:00-4:00pm

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Teaching Assistant: Sydney Holland

Office: 3303

Office hours: Tuesday 10:00-11:00am

Credit value: 0.5 credit

Calendar Course Description

This course examines the growth, development and aging of the human body using evolutionary, comparative and cross-cultural approaches. We will draw on practical methods from bioarchaeology and forensics, theoretical perspectives from biological evolution and evolutionary ecology, cultural aspects from cultural anthropology, and clinical perspectives from modern medical studies.

Antirequisite(s): none

Prerequisite(s): Any *one* of the following: Anthropology 1020 (formerly Anthropology 1020E), Anthropology 1022A/B, Anthropology 1026F/G, Sociology 1020, Sociology 1021E, Biology 1225, Biology 1290B, Health Sciences 1001A/B and Health Sciences 1002A/B.

Course Syllabus:

This course examines the growth, development and aging of the human body using evolutionary, comparative, and cross-cultural approaches. Modern humans are unique among other primates in having very large brains, which have evolved through a complex process that required adaptations to gestation, delivery, the number and length of post-natal growth phases, and in patterns of parental investment. Modern humans have also evolved long life spans compared to our primate relatives. In addition, the growth and aging processes are affected by cultural factors. Practical methods will be drawn from bioarchaeology and forensics, theoretical perspectives will be drawn from biological evolution and evolutionary ecology, cultural aspects will be drawn from cultural anthropology and clinical perspectives will be incorporated from modern medical studies. In order to be studied

holistically, both the biological and cultural aspects of aging must be considered, making it an ideal subject for an anthropology course.

Learning Outcomes:

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

- integrate perspectives from several disciplines in the analysis of human growth and aging
- place the pattern of modern human growth and development in its evolutionary context
- identify and characterize the stages of human growth and development
- understand the biocultural approach and how it shapes interpretations within biological anthropology and bioarchaeology
- debate the future of our species and whether and/or how natural selection will shape how we age

Course Materials:

An updated course schedule including a week-by-week breakdown of topics and assigned readings will be available on the course's OWL site before the first day of class.

Evaluation:

Midterm Test - 30%.

October 18th, 2021. 3 hr duration. Multiple choice and short answer format.

Use of electronic devices will not be allowed during midterm tests.

Essays/Written Assignments/Reports – 30%

The 2000 +/- 250 word research paper will focus on theories of why we age. This is a topic introduced in the first lecture and revisited in the last lecture. The reading for the last lecture should provide a jumping off point for your research. Students should gather at least 5 additional academic references (refereed journal articles – note that there is a lot of very unacademic stuff on the internet about this!).

The paper should have a title page, the text and a literature cited section. It should be formatted in Times Roman, 12 point font, double spaced with 2.5cm margins. Further details on format and structure will be presented in class and posted on OWL.

The research paper is due November 29th, 2021 in class in printed form and it should be submitted to OWL by 11:55pm that evening. Assignments that are not submitted on the due date will be assessed a late penalty of 5% per day; assignments that are more than a week late will not be accepted.

All required papers may be subject to submission for textual similarity review to the commercial plagiarism detection software under license to the University for the detection of plagiarism. All papers submitted for such checking will be included as source documents in the reference database for the

purpose of detecting plagiarism of papers subsequently submitted to the system. Use of the service is subject to the licensing agreement, currently between The University of Western Ontario and Turnitin.com.

Final Exam – 40%

The final exam will take place during the designated exam period for this course. Multiple choice and short answer format. The use of electronic devices will not be allowed during the final exam.

Course Specific Statements and Policies:

Statement on Seeking Academic Consideration:

Academic consideration will not be granted retroactively more than 10 days after an assignment's due date or a missed quiz or test. Please consult university policies on [procedures for seeking academic consideration](#) in the Academic Calendar.

Statement on Plagiarism:

Students must write their assignments in their own words. Whenever students take an idea from another author, they must acknowledge their debt both by using quotation marks where appropriate and by proper referencing. It is also a scholastic offence to submit the same work for credit in more than one course. Plagiarism is a major scholastic offence.

Policy on Laptops and Cellphones in Class:

Laptops are permitted for note taking in class but if it is observed that students are on social networking sites, they will be asked to close the laptop and will not be permitted to use it for the remainder of the class. Be sure that all cellphones are turned off at the beginning of class.

Institutional Statements and Policies

All students should familiarize themselves with Western's current academic policies regarding accessibility, plagiarism and scholastic offences, and medical accommodation. These policies are outlined here: [Western's academic policies](#).

Useful Websites:

Anthropology Department: <http://anthropology.uwo.ca>

Support Services: http://welcome.uwo.ca/student_experience/services.html

Office of the Registrar: <http://www.registrar.uwo.ca>

Academic Support and Engagement: <http://www.sdc.uwo.ca>

Accommodated Exams: http://www.registrar.uwo.ca/examinations/accommodated_exams.html

Weekly Lecture Topics and Readings:

September 13th - What is aging? What is growth and development?

- biological perspective – stages of growth and development in modern humans
- cultural perspective – behavioural mapping onto biological stages
- how does that make us different from other apes/mammals?
- history of growth studies
- methods

reading:

Tanner, J.M. 2000. A brief history of the study of human growth. In: Ulijaszek, S.J., Johnston, F.E. & Preece, M.A. eds, The Cambridge Encyclopedia of Human Growth and Development, Cambridge University Press: Cambridge, pp: 3-12.

Zuckerman, M.K. & Martin, D.L. 2016. Introduction: the development of biocultural perspectives in anthropology. In: Zuckerman, Molly K., and Debra L. Martin. New Directions in Biocultural Anthropology, John Wiley & Sons, Incorporated, 2016. ProQuest Ebook Central, <https://ebookcentral.proquest.com/lib/WEST/detail.action?docID=4653430>, pp: 7-26.

September 20th - Natural selection / nature nurture– focus on growth and development

- evolutionary perspective on growth, development and aging
- skeletal development in vertebrates and mammals

reading:

Berendsen, A.D. & Olsen, B.R. 2015. Bone development. Bone 80: 14-18.

Steckel, R.H. Social and economic effects on growth. In: Cameron, N. & Bogin, B. eds, Human Growth and Development, second edition, Elsevier Inc., Amsterdam, pp: 225-244.

September 27th - Methods of study

- longitudinal and cross-sectional studies
- analysis of growth and aging in the modern context
- analysis of growth and aging in the archaeological context

reading:

Cameron, N. 2012. The measurement of human growth. In: Cameron, N & Bogin, B. eds, Human Growth and Development, second edition, Elsevier Inc., Amsterdam, pp: 487-513.

October 4th - The evolution of the modern human pattern of growth and development

- divergence of hominins from other apes
- who are the hominins?
- stages in the evolution of our pattern of growth and development
- the modern human pattern of growth

reading:

Bogin, B. 2012. The evolution of human growth. In: Cameron, N & Bogin, B. eds, Human Growth and Development, second edition, Elsevier Inc., Amsterdam, pp: 287-324.

October 11th - Thanksgiving Day

October 18th - Midterm Exam

October 25th - The stages of human growth and development I – fertilization – embryology

- fetal growth and development

The stages of human growth and development II – infancy

- osteological landmarks – social landmarks
- weaning from a bioarchaeological perspective
- weaning from a cross-cultural perspective

reading:

Bourbou, C., Fuller, B.T., Garvie-Lok, S.J. & Richards, M.P. 2013. Nursing mothers and feeding bottles: reconstructing breastfeeding and weaning patterns in Greek Byzantine populations (6th to the 15th centuries AD) using carbon and nitrogen stable isotope ratios. Journal of Archaeological Science 40: 3903-3913.

November 1st – reading week

November 8th - The stages of human growth and development III – early childhood

- osteological landmarks – social landmarks
- evolutionary appearance
- brain growth

reading:

Thompson, J.L. & Nelson, A.J. 2016. Childhood and patterns of growth in the genus Homo. In: C Meehan & A Crittenden, (eds.), Childhood: Origins, Evolution and Implications, University of New Mexico Press/School of American Research: Santa Fe, pp: 75-102.

November 15th -The stages of human growth and development IV – juvenile (middle childhood)

- osteological landmarks – social landmarks
- cognitive transition

- The stages of human growth and development V – adolescence

- osteological landmarks – social landmarks
- the adolescent growth spurt and its evolutionary appearance
- hormones and adolescence

reading:

Crittenden, A.N., Conklin-Brittain, N.L., Zes, D.A., Schoeninger, M.J. & Marlowe, F.W. 2013. Juvenile foraging among the Hadza: Implications for human life history. Evolution and Human Behavior 34: 299-304.

Schlegel, A. & Hewlett, B.L. 2011. Contributions of anthropology to the study of adolescence. Journal of Research on Adolescence 21(1): 281-289.

November 22nd - The stages of human growth and development VI – adulthood

- osteological landmarks – social landmarks
- life span
- senescence
- diseases of aging

reading:

Martin, D.L. 2013. Chapter 6 - Bioarchaeology of individuals: identity, social theory, and skeletal analysis. In: D.L. Martin et al., Bioarchaeology: An Integrated Approach to Working with Human Remains, Manuals in Archaeological Method, Theory and Technique, Springer Science+Business Media New York, pp: 151-172.

Cameron, N. & Demerath, E.N. 2002. Critical periods in human growth and their relationship to diseases of aging. Yearbook of Physical Anthropology 45: 159-184.

November 29th - Growth and Aging from a population perspective

- sexual differences in growth, development and aging
- secular trends in stature
- interpopulation differences in growth, development and aging

reading:

Stulp, G. & Barrett, L. 2016. Evolutionary perspectives on human height variation. Biological Reviews 91: 206-234.

December 6th - Hypotheses about why we age

- Course wrap up

Reading:

Omholt, S.W & Kirkwood, T.B.L 2021. Aging as a consequence of selection to reduce the environmental risk of dying. Proceedings of the National Academy of Sciences 118 (22) e2102088118.

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