



University of Waterloo, Department of Anthropology, ANTH 204

BIOLOGICAL ANTHROPOLOGY

Fall 2023

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Instructor: Dr. Creighton Avery (she/her)
Lecture Time: Tuesday & Thursdays, 2:30 – 3:50 pm
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Office Hours: Tuesdays, 4:00 – 5:00 pm

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Land Acknowledgement

I acknowledge that the University of Waterloo is located on the traditional territories of the Haudenosaunee, Anishnawbe, and Neutral Peoples, in the land known as the Haldimand Tract. This land was given in compensation to the Six Nations of the Grand River and Mississaugas of the Credit First Nation in 1784, but today only 5% of that land remains under their protection. I encourage you to learn more about the lands you inhabit. If you're in Canada, you can start by visiting Native-Land (<https://native-land.ca/>) or Whose Land (<https://www.whose.land/en/>).

Course Description

Biological anthropology is a diverse field of study, that sits at the cross-roads of social sciences and biology, entrenched in the biocultural approach. This course will help introduce you to the various subfields of biological anthropology, encouraging you to a diverse range of approaches, theoretical frameworks, and methods to study humans, their ancestors, and their closest relatives. After an introduction to the history of evolutionary theory and genetics, we'll explore the living non-human primates, including biology, primate behaviour and taxonomic relationships with humans. Following reading week, we'll examine our own evolutionary history by studying the paleoanthropological origins of humans and rise of modern humans. Lastly, we'll focus on osteology, bioarchaeology, and modern applications of biological anthropology.

Note: As an essential piece of this course, there will be discussions of animal experimentation, death, and human remains, among other sensitive topics. There will also be images, where appropriate, of skeletal remains.

Intended Learning Outcomes (ILO)

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

1. Identify, describe, and discuss aspects of biological anthropology, particularly as it relates to evolutionary theory, primate evolution and behaviour, ancient hominins and human origins, contemporary human variation, and bioarchaeology.
2. Apply standard anthropological methods and theoretical approaches to a range of problems encountered by biological anthropologists.
3. Demonstrate appropriate and ethical laboratory practices while applying quantitative and qualitative methods to the analysis of hominin and primate casts, human remains and artifacts.
4. Develop and construct a final product that communicates biological anthropological research in new and innovative ways, engaging those beyond academia.

Your Instructor

Hi! My name is Creighton (she/her). I received my PhD in Biological Anthropology at McMaster University where I use scientific methods (e.g., dietary stable isotopes and peptide analysis) to answer social questions about experiences of adolescence in the Roman Empire (e.g., when did kids start eating like adults? And what does that tell us about their changing social roles at this time?). I also work in cultural resource management as an osteoarchaeologist, identifying human remains at excavations in Ontario. Outside of academia, I love to quilt, go on canoe tripping adventures, and take my dog, Wiley, to new places.



I'm looking forward to getting to know all of you, and please don't hesitate to reach out with any questions or concerns at any point this semester.

Required Materials and Texts

There are no required texts for this course. Required and recommended readings will be available through Open Access content and posted to Waterloo Learn, as appropriate.

Class Format

The course is divided into multiple sections, focusing on various streams of research under the umbrella of biological anthropology. When appropriate, lab materials will be brought to the lecture classroom, and can be made available for further study following class in the anthropology lab.

It is my hope to deliver a course that engages all learners. This includes designing assignments that are completed in different formats and providing course content in different modalities. If there is any portion of the course that you feel you cannot engage in or complete to the best of your ability, please reach out to me via email to learn how I can better support your learning.

All relevant course content, including lecture slides and assignment submissions, will be made available through Waterloo Learn.

Course Evaluation – Overview

Assignments are designed to help keep you on track and apply what you've learned in class. If you have any concerns about the following assignments (content, format, timeline etc.), please reach out to me in advance, to see what can be done to help you succeed

in this course. Assessments are to be completed/submitted on Learn. I employ a compassionate late policy (see Course Policies), where late penalties are not deducted for two days after the due date. If I have not heard from you to discuss why your assignment is late, a late penalty of 5% per day, including weekend days, will be applied after that point.

1. Lab Write Ups – 25%, due throughout the semester
2. Test One – 15%, completed in-class on October 5
3. Test Two – 25%, completed in-class on November 16
4. The UnEssay
 - a. Proposal – 10%, due November 2
 - b. UnEssay Project – 5%, due December 5
 - c. Museum Plaque – 15%, due December 5
 - d. Personal Reflection – 5%, due December 7

Course Evaluation – Details

Lab Write Ups (5% x 5 = 25%), due throughout the semester

Six labs will be offered during the semester, covering different aspects of the course. After completing the hands-on activities (during our scheduled lecture time), complete the corresponding write up and submit it by the end of the appropriate class. Your top 5 out of a possible 6 labs will contribute to your final grade, but you're welcome to complete all 6 (see list below). This will help you achieve ILO 1, 2 and 3, throughout the semester.

1. Evolution Lab, September 21, 2023
2. Primatology Lab, September 28, 2023
3. Human Evolution Lab, October 19, 2023
4. Osteology Lab, November 9, 2023
5. Bioarchaeology Lab, November 23, 2023
6. Forensics Lab, November 28, 2023

Test One (15%), in class on October 5, 2023

Complete an in-class test covering content from weeks 1 to 5 (Introduction, Evolution Basics, and Primatology). The exam will include true/false, multiple choice, fill-in-the-blank, and short answer questions. This will help you achieve ILO 1 and 2.

Test Two (25%), in class on November 16, 2023

Complete an in-class test covering content from weeks 7 to 11 (Human Evolution, Modern Humans, and Osteology). The exam will include true/false, multiple choice, fill-in-the-blank, and short answer questions. This will help you achieve ILO 1 and 2.

The UnEssay (35%), due throughout the semester

During your undergrad, you'll have the opportunity to write lots of essays. In this assignment, you're challenged to embrace your creative side, and find new and

innovative ways to communicate biological anthropological research. The assignment will include four components (see below), covering the UnEssay project, explanation and reflection. This will help you achieve ILO 1, 2, and 4.

1. Proposal of your UnEssay topic (due November 2, 10%)
2. UnEssay project (due December 5, 5%)
3. Museum plaque (due December 5, 15%)
4. Personal Reflection (due December 7, 5%)

Rubrics are available on Waterloo Learn. This activity will help you learn to distill information to the key points and engage with the public in dynamic and interesting ways.

Weekly Course Schedule

Lectures will be delivered in class, with opportunities for students to ask questions and seek clarification. Slides will also be available on Learn. To support your learning, a range of optional activities (readings, videos, webpages, etc.) will also be available on Learn.

Week	Date	Topic	Assignments	Readings
1	Sep 7	Introductions		Ex. C 1
2	Sept 12/14	Evolution: Theory		Ex. C. 2-3
3	Sept 19/21	Evolution: Application	Lab: Evolution	Ex. C. 4
4	Sept 26/28	Primatology I	Lab: Primatology	Ex. C. 5
5	Oct 3/5	Primatology II	Test One	Ex. C. 6
6	Oct 10/12	Reading Week		None
7	Oct 17/19	Human Evolution I	Lab: Human Evolution	Article
8	Oct 24/26	Human Evolution II		Article
9	Oct31/Nov 2	Modern Humans	UnEssay Proposal	None
10	Nov 7/9	Osteology I	Lab: Osteology	Ex. App. A
11	Nov 14/16	Osteology II	Test Two	None
12	Nov 21/23	Bioarchaeology	Lab: Bioarchaeology	Convo Can
13	Nov 28/30	Modern Applications	Lab: Forensics	Convo Can
14	Dec 5	The UnEssay Museum	UnEssay Project	None

Ex = *Explorations*, our open access textbook. C = Chapter. App = Appendix. Convo Can = Conversation Canada, see links below.

Week 1. Introductions (September 7)

For our first week, we'll go through some introductions as we start this course, including course expectations, course orientation, and situating biological anthropology as a discipline.

Required Readings: *Explorations*, [Chapter 1](#) (Introduction to Biological Anthropology)
Assessment: None

Week 2. Evolution: Theoretical Approaches (September 12 & 14)

This week, we'll learn about the scientific method, and evolutionary thought from Plato to Darwin.

Required Readings: *Explorations*, [Chapter 2](#) (A History of Evolutionary Thought) and [Chapter 3](#) (Molecular Biological and Genetics)
Assessment: None

Week 3. Evolution: Application (September 19 & 21)

We'll move beyond theoretical concepts of evolution, and look at how it works, including genetics, inheritability, and gene flow.

Required Readings: *Explorations*, [Chapter 4](#) (Forces of Evolution)
Assessment: Evolution Lab (5%), in-class on September 21, 2023

Week 4. Primatology I (September 26 & 28)

This week, we'll explore what it means to be a primate, and explore the Strepsirhini and Haplorhini primates.

Required Readings: *Explorations*, [Chapter 5](#) (Meeting the Living Primates)
Assessment: Primatology Lab (5%), in-class on September 28, 2023

Week 5. Primatology II (October 3 & 5)

This week we'll look at primate behaviour, including how it's studied, and how we can apply these findings to better understand human evolution.

Required Readings: *Explorations*, [Chapter 6](#) (Primate Ecology and Behaviour)
Assessment: Test 1 (15%), in-class on October 5, 2023

Week 6. Reading Week (October 10 & 12)

No lectures this week.

Required Readings: None
Assessment: None

Week 7. Human Evolution I (October 17 & 19)

This week, we'll look at what makes a hominin, including features associated with bipedalism. We'll also explore human evolution from early hominins to the Australopithecines.

Required Readings: [Teeth of Human Ancestors Hold Clues to Their Family Life](#), by Nicholas Wade (The New York Times)

Recommended Review: *Explorations*, [Chapter 9](#) (Early Hominins)

Assessment: Human Evolution Lab (5%), in-class on October 19, 2023

Week 8. Human Evolution II (October 24 & 26)

On October 24, we'll continue our exploration of the evolution of humans, from the emergence of the genus *Homo* to the emergence of modern humans.

Required Readings: [Homo luzonensis: New species of ancient human discovered in the Philippines](#) (2019) by Josh Davis at the Natural History Museum

Recommended Review: *Explorations*, [Chapter 10](#) (Early Members of the Genus *Homo*)

Assessment: None

Note: There is no class on October 26

Week 9. Modern Humans (October 31 & November 2)

We'll discuss modern human adaptations including skin pigmentation, living at high altitudes, and adapting to cold stress.

Required Readings: None

Assessment: UnEssay Proposal (10%), due November 2, 2023

Week 10. Osteology I (November 7 & 9)

This week, we'll look at the modern human skeleton, learning about the structure of bone, and the key bones within the body (Guest lecture by our TA, Kasi!).

Required Readings: *Explorations*, [Appendix A](#) (Osteology)

Assessment: Osteology Lab (5%), in-class on November 9, 2023

Week 11. Osteology II (November 14 & 16)

Building on content from Week 10, we'll learn methods used to explore skeletal remains in the past, including age and sex estimations.

Required Readings: None

Assessment: Test 2 (25%), in-class on November 16, 2023

Week 12. Bioarchaeology (November 21 & 23)

This week, we'll explore the stories skeletons can tell, and how we might be able to learn about lived experiences in the past through the analysis of skeletal and dental remains.

Required Readings: The Conversation Canada, "[The burials that could challenge historians' ideas about Anglo-Saxon gender](#)" by James Davison

Assessment: Bioarchaeology Lab (5%), in-class on November 23, 2023

Week 13. Modern Applications (November 28 & 30)

This week, we'll look at ways biological anthropology is used in our modern world, focusing largely on forensic anthropology, including medicolegal significance, trauma, and cause of death.

Required Readings: The Conversation Canada, "[Reading the bones of the dead: The painstaking, painful process of returning genocide victims to their families](#)" by Olivera Simic.

Assessment: Forensics Lab (5%), in-class on November 30, 2023

Week 14. The UnEssay Museum (December 5)

For our last week, you'll bring in your UnEssay product and museum plaque, and we'll set up our own "museum". We'll share food, relax, and reflect on all the great work you've done this semester.

Required Readings: None

Assessments: UnEssay Project (5%) and Museum plaque (15%) due December 5, 2023; Personal Reflection (5%) due December 7, 2023

Course Policies

Submission of Assignments

Components of the UnEssay, including the Proposal, museum plaque and reflection, will be submitted through Learn, due at 11:59 pm on the corresponding due date. Tests and labs will occur during regularly scheduled class time on the Thursday of the corresponding week and should be submitted before leaving class.

Late Assignments

I employ a compassionate late policy, where late penalties are not deducted for two days after the due date. If I have not heard from you to discuss why your assignment is late, a late penalty of 5% per day, including weekend days, will be applied after that point.

Course Modification

The instructor and university reserve the right to modify elements of the course during the term. The university may change the dates and deadlines for any or all courses in extreme circumstances. If either type of modification becomes necessary, reasonable notice and communication with the students will be given with explanation and the opportunity to comment on changes.

University Policies

Absences, Missed Work, Illness

Occasionally there are aspects of life that make it impossible for students to meet deadlines or to take scheduled tests. Whether it be a medical issue, religious observance, or death in the family, it is essential that you contact Dr. Avery as soon as possible to discuss your options.

For medical issues specifically, can you “Self-Declare on Quest” and submit a “Verification of Illness form” online, directly to the university, instead of first going through your professor. However, it is still recommended that you email Dr. Avery to follow up about new deadlines or expectations.

For more information, please visit: <https://uwaterloo.ca/arts/undergraduate/student-support/accommodations-illness-or-extenuating-circumstances>

Academic Integrity and Discipline

In order to maintain a culture of academic integrity, members of the University of Waterloo are expected to promote honesty, trust, fairness, respect and responsibility. See the [Office of Academic Integrity webpage](#) for more information.

A student is expected to know what constitutes academic integrity, to avoid committing academic offences, and to take responsibility for his/her actions. Check [the Office of Academic Integrity](#) for more information. A student who is unsure whether an action constitutes an offence, or who needs help in learning how to avoid offences (e.g., plagiarism, cheating) or about “rules” for group work/collaboration should seek guidance from the course professor, academic advisor, or the Undergraduate Associate Dean. When misconduct has been found to have occurred, disciplinary penalties will be imposed under Policy 71 – Student Discipline. For information on categories of offenses and types of penalties, students should refer to [Policy 71 - Student Discipline](#). For typical penalties check [Guidelines for the Assessment of Penalties](#).

Grievances and Appeals

Grievance: A student who believes that a decision affecting some aspect of his/her university life has been unfair or unreasonable may have grounds for initiating a grievance. Read [Policy 70 - Student Petitions and Grievances](#), Section 4. When in doubt, please be certain to contact the department’s administrative assistant who will provide further assistance.

Appeals: A decision made or penalty imposed under Policy 70 - Student Petitions and Grievances (other than a petition) or Policy 71 - Student Discipline may be appealed if there is a ground. A student who believes he/she has a ground for an appeal should refer to [Policy 72 - Student Appeals](#).

Academic Accommodation of Students with Disabilities

The [AccessAbility Services](#) office, located on the first floor of the Needles Hall extension (1401), collaborates with all academic departments to arrange appropriate accommodations for students with disabilities without compromising the academic integrity of the curriculum. If you require academic accommodations to lessen the impact of your disability, please register with the AS office at the beginning of each academic term.

Mental Health Support

All of us need a support system. The faculty and staff in Arts encourage students to seek out mental health supports if they are needed.

On Campus

- Counselling Services: counselling.services@uwaterloo.ca / 519-888-4567 ext 32655
- [MATES](#): one-to-one peer support program offered by Federation of Students (FEDS) and Counselling Services
- Health Services Emergency service: located across the creek from Student Life Centre

Off campus, 24/7

- [Good2Talk](#): Free confidential help line for post-secondary students. Phone: 1-866-925-5454
- Grand River Hospital: Emergency care for mental health crisis. Phone: 519-749-433 ext. 6880
- [Here 24/7](#): Mental Health and Crisis Service Team. Phone: 1-844-437-3247
- [OK2BME](#): set of support services for lesbian, gay, bisexual, transgender or questioning teens in Waterloo. Phone: 519-884-0000 extension 213

Full details can be found online at the Faculty of ARTS [website](#)

Download [UWaterloo and regional mental health resources \(PDF\)](#)

Download the [WatSafe app](#) to your phone to quickly access mental health support information.

Academic Freedom at the University of Waterloo

[Policy 33, Ethical Behaviour](#) states, as one of its general principles (Section 1), "The University supports academic freedom for all members of the University community. Academic freedom carries with it the duty to use that freedom in a manner consistent with the scholarly obligation to base teaching and research on an honest and ethical quest for knowledge. In the context of this policy, 'academic freedom' refers to academic activities, including teaching and scholarship, as is articulated in the principles set out in the Memorandum of Agreement between the FAUW and the University of Waterloo, 1998 (Article 6). The academic environment which fosters free debate may from time to time include the presentation or discussion of unpopular opinions or controversial

material. Such material shall be dealt with as openly, respectfully and sensitively as possible.” This definition is repeated in Policies 70 and 71, and in the Memorandum of Agreement, Section 6.

Cover Image

Left to Right: Lemurs (Madagascar), Sterkfontein Caves (South Africa), Paris Catacombs (France), Mosaic Floor (Israel). Photos by Dr. Creighton Avery.