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ANTH 350 (SEC01)  
Laboratory Practice in Biological Anthropology  
GFC Hours 3-0

<b>Instructor:</b>	Dr. Warren Wilson	<b>Lecture Location:</b>	ES743
<b>Phone:</b>	403-220-2665	<b>Lecture Days/Time:</b>	Weds. 10:00 am – 1:45 pm
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**COURSE DESCRIPTION**

Where, when, and how did humans originate? Why do we fall in love? What can we learn from the skeletal remains of prehistoric peoples? Why do almost a fifth of Canadian university students have difficulty functioning due to depression or anxiety? How should we raise our children? Are we unique among animals? Why do we have such big brains? Why do we share so much in common with other primates and what might this tell us about who we are today? This course is designed to help us to answer these questions by providing a concentrated, hands-on introduction to human biology, the human place in the animal kingdom, and the evidence for human evolution.

We will begin with a consideration of the **scientific method** and **evolutionary theory**. A thorough understanding of both is essential as they provide the foundation upon which biological anthropologists base their work. We will then cover **human genetics** at the molecular and population levels. Next we will learn to identify **human skeletal** remains, which will help us to understand the lives of prehistoric human populations and provide a basis for subsequent sections on the fossil evidence for human evolution. In order to help us understand our place in the natural world, we will next turn our attention to **biological classification** and **comparative studies**. With the understanding that we share recent ancestors with other primates, we will then study non-human **primate ecology**. Primate ecology can help us to determine whether aspects of our behaviors and mental capacities reflect ancestral evolutionary heritage or are new features evolved or socially acquired by our lineage. Subsequently, we will cover **the evidence for human evolution** and the **major developments in the evolution of our species**. This consideration of the evolution of humans should help us to understand modern human biology, our relationship with the rest of the natural world, and possibly inform our future action as a species. In our last meeting, we will return to the consideration of contemporary human biological variation via **anthropometrics**, a suite of tools that biological anthropologists use to document patterns of health in groups.

**Prerequisite(s):** Anthropology 201

**READINGS AND TEXTBOOKS:**

Reading, video, and podcast assignments are be found in the schedule below and the weekly question sets. In the schedule below, you'll find a list of the required readings, videos, and podcasts. In addition, optional readings are often provided to enhance your knowledge of the subject in question. Keep in mind that *you are not finished with the reading, podcast, or video assignment until you thoroughly understand it*. This will sometimes require you to read, listen to, or watch the assigned material more than once. An effective way of ensuring comprehension is to read, listen to, or watch the assignment then go back through it and summarize its main points and supporting evidence in your notebook.

**REQUIRED TECHNOLOGY and EQUIPMENT:**

You are required to have access to a computer or similar equipment to enable you to read and post assignments on the class D2L site.

**SUPPLEMENTARY FEES**

For the primatology lab (Lab 9), you will be required to visit the Calgary Zoo. To do enter the zoo, you will need to purchase a ticket for \$34.95.

**LEARNING OUTCOMES:**

The Department of Anthropology and Archaeology is committed to student knowledge and skill development.

Background: A group of politicians\*, physicians, attorneys and business professionals complain to the university curriculum committee that biological anthropology is a waste of time for students, claiming that the topics covered are too weird, have no bearing on the issues currently facing humanity and the environment and provide the students with no marketable skills upon graduation.

\* [I'm not making this up.](#)

Goal: You will be able to convince the university curriculum committee that the work done by biological anthropologists provides useful insights to enable us to better develop solutions to current challenges and requires skills that do, in fact, render students more for careers either outside of or within the discipline of biological anthropology.

**Specific content goals:**

Upon the conclusion of this course you will be able to . . .

- 1) list ways of knowing and use one of these, the scientific method, to critically evaluate conclusions made about the relationship between variables;
- 2) provide a clear explanation of cellular reproduction, protein synthesis, and the inheritance of traits;

- 3) provide a clear explanation and examples of the mechanisms that drive change in species over time (e.g. natural selection, sexual selection, genetic drift, gene flow, and mutation);
- 4) identify the types, features, sex, side, and several lesions of human skeletal remains;
- 5) be cognizant of cultural sensitivities, explain why we should or should not continue to study human skeletal remains;
- 6) explain to taxpayers why the Canadian government should or should not continue to fund research on non-human primates (e.g. How, exactly, might this work be relevant to the people of Canada?);
- 7) delineate the evidence for human evolution (For example, if you meet somebody at a bar who argues that humans originated 6,000 years ago through divine intervention, you will be able to suggest a different explanation for human origins, based on fossil, genetic, archaeological, and paleoenvironmental evidence.);

## COURSE REQUIREMENTS AND ASSESSMENT

The metrics used in this course are designed to assess different types of knowledge and to ensure that my TA and I can determine where students might benefit from additional assistance to master the material. The marking components are as follows:

- Question sets & Learning journal (33%): Weekly, you will receive short questions about the content of reading assignments, as well as questions that ask you to reflect on what you are learning, such as describing the most interesting thing you learned from the reading. Weekly, we will discuss your answers in small groups then as a class. How long should your answers be? This depends, but answers must show that you gave each question a lot of thought and responded accordingly. Some can be answered with a brief sentence, while others require more. For example, if you answer question one of question set one ("How is social science research done?"), by stating that "It seeks to understand how humans operate as social animals without overgeneralizing on the basis of personal experience." --that would be a good start, but a few more sentences, including an example, would be required to demonstrate that you understand this way of knowing. In some cases, there will be no single or clear answer. Do not cut and paste text from the readings *or* work with a classmate to answer the questions; rather, answer the questions in your own words. In evaluating your question sets, first we will determine whether or not all questions have been answered. If you did not, for example, answer 3 of 11 questions, we will deduct 27% (3/11) from your overall score. Second, we will carefully assess your work on 2 to 5 of the questions. Assuming you have completed all of the assigned questions, your work on the questions we carefully assess will determine your overall question set score. You will keep a **learning journal** that encourages you to reflect on what you learned from the assigned readings. Weekly, we will discuss your answers in small groups then as a class. How long should your journal be? Again, the answer is, "it depends". The journal is for you but must evidence effort on your part. We'll review your journal weekly to see that you are exerting this effort and to determine whether you are grasping the concepts.

- Lab work (26%): Weekly we will evaluate your work in the lab.
  - a) *Participation* (20% of lab work score): Your TA will observe your activities in each lab and score your participation based on your participation in all aspects of the lab; consistent engagement with your lab partners; and handling of the equipment, bones, and fossil casts.
  - b) *Lab report* (80% of lab work score): Your TA will generally collect your lab each week and return it to you in class the following week. To evaluate your work, your TA will first check to see that the lab is complete. If the lab has 18 questions and you've answered only 15, we will deduct 17% (3/18) from your mark. Your TA then mark those questions that require a synthesis of your findings. Assuming that you answer all of the questions, your TA's assessment of these questions will determine your overall mark on your lab report. For *any* credit, your lab report must exhibit intellectual investment, critical thinking, be supported with data where required, and be written in *your own words*, not those of your lab partners. The "Lab Work & Question Set Grading Rubric" can be found in the Course Documents section of D2L. Familiarize yourself with the grading rubric and criteria for each letter grade prior to attending the first lab.
- Primate ethology lab (5%): This lab will be completed on your own time at the Calgary Zoo with the purpose of providing you with exposure to the study of non-human primate behavior. The observation of the nonhuman primates will generally require 3-5 hours at the zoo.
- Lab practicals (36%): Your knowledge of the material covered in this course will be evaluated, in part, in three lab practicals. In lab practicals you will have to identify actual items such as fossils, bones, structures of DNA, etc. that you've studied in lab. For example, you may be given a particular bone and asked to name it, the side of the body from which it came, and other information it might provide. On each practical you should expect some items that you haven't seen in lab, such as a new model, a different bone, or fossil. The lab practicals will generally last about 25 minutes at the beginning of the class and be structured as "bell ringers"; that is, the questions will be laid out in stations around the lab and you will move from station to station in the lab every time a bell rings. In some cases, your lab practical may also include an essay question. In all cases, lab practicals are closed book and you will not be allowed to consult notes during the practical.

Your final grade will be calculated as follows:

Component	Percentage of Overall Course Grade
Question sets & learning journal	33%
Lab work <sup>1</sup>	26%
Primate ethology lab	5%
Lab practicals	36%

<sup>1</sup> This does not include the primate ethology lab report.

Students may provide supporting documentation for an exemption/special request. This may include, but is not limited to, a prolonged absence from a course where participation is required, a missed course assessment, a deferred examination, or an appeal. Students are encouraged to submit documentation that will support their situation. The decision to provide supporting documentation that best suits the situation is at the discretion of the student. Students cannot be required to provide specific supporting documentation, such as a medical note. Falsification of any supporting documentation will be taken very seriously and may result in disciplinary action through the Academic Discipline regulations or the Student Non-Academic Misconduct policy.

Missed examinations/tests cannot be made up without the approval of the instructor. Students who miss a test/exam have up to 48 hours to contact the instructor to ask for a makeup test/exam. It is at the instructor's discretion if they will allow a make-up exam. Students who do not schedule a makeup test/exam with the instructor within this 48-hour period forfeit the right to a makeup test/exam. At the instructor's discretion, a makeup test/exam may differ significantly (in form and/or content) from a regularly scheduled test/exam. Once approved by the instructor a makeup test/exam must be written within two weeks of the missed test/exam on a day/time scheduled by the instructor. Deferral of the registrar-scheduled final exam requires Registrar approval <https://www.ucalgary.ca/registrar/exams/deferred-final-exams>

**Reappraisal of Graded Term Work:** <http://www.ucalgary.ca/pubs/calendar/current/i-2.html>

**Reappraisal of Final Grade:** <http://www.ucalgary.ca/pubs/calendar/current/i-3.html>

#### **Department of Anthropology and Archaeology Grading Scheme:**

A+	95 – 100%	B	75 – 79.9%	C-	59 – 62.9%
A	90 – 94.9%	B-	71 – 74.9%	D+	55 – 58.9%
A-	85 – 89.9%	C+	67 – 70.9%	D	50 – 54.9%
B+	80 – 84.9%	C	63 – 66.9%	F	< 50%

Extra credit work is not available in this class. A passing grade is not required on any particular component for the student to pass the course as a whole; that is, a student may fail, for example, Mid-Term Exam #1 or any other component and, assuming their overall average percentage earned for the course is above 50%, they will pass the course.

### **COURSE POLICIES**

**1. My teaching philosophy<sup>1</sup>:** In short, I encourage students cultivate their sense of skepticism about the status quo, to make connections among seemingly disparate phenomena, and to see things from another's point of view. I have no interest in telling you what you must think but of offering evidence that will allow you to reach your own conclusions. I do not seek to provide

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<sup>1</sup> For more on my teaching philosophy, please see: Delbanco, A (2012) [What is college for?](#) *Continuing Higher Education Review* 76:11-19. and Zakaria, Fareed (2016) [In Defense of a Liberal Education](#). W. W. Norton Company

you with an intellectually safe space; rather I endeavor to challenge you with new ideas with which you will have to engage to reach your own, informed conclusions. Students in my classes are encouraged to speak, write, listen, challenge, and learn, without fear of censorship. The free exchange of ideas is a fundamental part of democratic society. That said, civility and mutual respect are vital to all of us, and freedom of expression does not mean the freedom to harass or threaten others. I consequently expect you to be engaged in evidence-based, rigorous debate, discussion, and even disagreement with one another and me. At times, this may challenge you and even cause discomfort. Indeed, as we will consider some of the most horrific acts of inhumanity that have arisen due to human variation, such as sexual and physical violence and assault, racism, sexism, discrimination based on sexual orientation, genocide, war, the physical and psychological abuse of children, suicide, and drug and alcohol abuse, this course should be unsettling. Our consideration of these domains is not gratuitous: a failure to understand the basis and potential for such acts puts us at risk of repeating them.

**2. How can you get in touch with the TA or me?** If you have a question, it may already be answered in this syllabus, course assignment documents, course rubrics, or D2L. Check there first. If you have questions about the class material *that are not answered in these domains*, please contact me. If you have questions about technical aspects of the class that are not answered elsewhere, please contact the teaching assistant. If you have a question about a mark earned, arrange to meet with me in person to discuss this. If you would like to meet with me, please suggest some possible times when writing to me. Write ‘ANTH 305’ in the ‘Subject’ portion of the email. In the body of your message please provide your first and last name and use proper, not text-message, grammar. By identifying the subject of your email and writing a clear message, you will help your TA and me to reply more efficiently to your emails. We will do our best to reply within one business day to your message.

**3. Think-pair-share:** To engage you in the learning process I will often use “think-pair-share” or to have you explore topics and answer. This generally will mean that I will ask you to think about a question, have you discuss the question with two to three people sitting near you for a few minutes, then share what you and your group concluded with the rest of the class. Hence, it’s in your best interest to come to class prepared. Note that if you feel awkward chatting with those sitting around you, you are not alone. I do this not to torment you but because this method has been found to improve student engagement, differentiate instruction, and give you more of a voice in a large class where you otherwise might have none.

**4. What does my grade mean?** Per the [University of Calgary Calendar](#), an “A” is earned for “superior performance, showing comprehensive understanding of subject matter”. Superior performance is, by definition, rare; that is, superior is defined as “highest in quality”. More common is the grade of “B” which is earned for “clearly above average performance with knowledge of subject matter generally complete”. More common still is the grade of “C” which is earned for a “basic understanding of the subject matter”. If you require clarification on letter grade assignments, please contact me within the first two weeks of the semester. Keep in mind that, you have paid for the opportunity to learn, not a grade. As such, my teaching assistant and I do our utmost to ensure that you have the best possible learning opportunity in this course.

**5. Office Hours:** I enjoy conversations with students. Whether you would like to discuss in greater detail something that was touched on in class or the assigned material or are having difficulty with some aspect of the course, both my TA and I are happy to meet with you. To schedule a meeting, please contact us with several suggested dates.

**7. Phones & social media in class:** Please do not use your phone and refrain from using social media in class. Unless you have my permission to do so via an Academic Accommodation, you may not record our class lectures.

## UNIVERSITY POLICIES

### ACADEMIC ACCOMMODATIONS

Students seeking an accommodation based on disability or medical concerns should contact Student Accessibility Services; SAS will process the request and issue letters of accommodation to instructors. For additional information on support services and accommodations for students with disabilities, visit <https://live-ucalgary.ucalgary.ca/student-services/access>. Students who require an accommodation in relation to their coursework based on a protected ground other than disability should communicate this need in writing to their Instructor or the Department Head. The full policy on Student Accommodations is available at <https://www.ucalgary.ca/legal-services/university-policies-procedures/accommodation-students-disabilities-procedure>.

### ACADMIC INTEGRITY POLICY

Academic integrity is the foundation of the development and acquisition of knowledge and is based on values of honesty, trust, responsibility, and respect. We expect members of our community to act with integrity. The University Calendar includes a statement on the principles of conduct expected of all members of the university community (including students, faculty, administrators, any category of staff, practicum supervisors, and volunteers), whether on or off university property. This statement applies in all situations where members of the university community are acting in their university capacities. All members of the university community have a responsibility to familiarize themselves with the principles of conduct statement, which is available at: [www.ucalgary.ca/pubs/calendar/current/k.html](http://www.ucalgary.ca/pubs/calendar/current/k.html).

### ACADEMIC MISCONDUCT

The University of Calgary is committed to the highest standards of academic integrity and honesty. Students are expected to be familiar with these standards regarding academic honesty and to uphold the policies of the University in this respect.

Academic dishonesty is not an acceptable activity at the University of Calgary, and students are **strongly advised** to read the Student Misconduct section in the University Calendar at: [www.ucalgary.ca/pubs/calendar/current/k-3.html](http://www.ucalgary.ca/pubs/calendar/current/k-3.html). Often, students are unaware of what constitutes academic dishonesty or plagiarism. The most common are (1) presenting another student's work as your own, (2) presenting an author's work or ideas as your own without adequate citation, and (3) using work completed for another course. Such activities will not be tolerated in this course, and students suspected of academic misconduct will be dealt with according to the procedures outlined in the calendar at: <https://www.ucalgary.ca/legal-services/university-policies-procedures/student-academic-misconduct-procedure>



For students wishing to know more about what constitutes plagiarism and how to properly cite the work of others, the Department of Geography recommends that they attend Academic Integrity workshops offered through the Student Success Centre: <https://www.ucalgary.ca/student-services/student-success/learning/academic-integrity>

### **INSTRUCTOR INTELLECTUAL PROPERTY**

Course materials created by professor(s) (including course outlines, presentations and posted notes, labs, case studies, assignments and exams) remain the intellectual property of the professor(s). These materials may NOT be reproduced, redistributed or copied without the explicit consent of the professor. The posting of course materials to third party websites such as note-sharing sites without permission is prohibited. Sharing of extracts of these course materials with other students enrolled in the course at the same time may be allowed under fair dealing. Information on Instructor Intellectual Property can be found at <https://www.ucalgary.ca/legal-services/university-policies-procedures/intellectual-property-policy>

### **FREEDOM OF INFORMATION AND PROTECTION OF PRIVACY ACT**

Student information will be collected in accordance with typical (or usual) classroom practice. Students' assignments will be accessible only by the authorized course faculty. Private information related to the individual student is treated with the utmost regard by the faculty at the University of Calgary.

### **COPYRIGHT LEGISLATION**

All students are required to read the University of Calgary policy on Acceptable Use of Material Protected by Copyright (<https://ucalgary.ca/legal-services/university-policies-procedures/acceptable-use-material-protected-copyright-policy>) and requirements of the copyright act (<https://laws-lois.justice.gc.ca/eng/acts/C-42/index.html>) to ensure they are aware of the consequences of unauthorized sharing of course materials (including instructor notes, electronic versions of textbooks, etc.). Students who use material protected by copyright in violation of this policy may be disciplined under the Non-Academic Misconduct Policy.

### **SUPPORTS FOR STUDENT LEARNING, SUCCESS, AND SAFETY**

Please visit the Registrar's website at: <https://www.ucalgary.ca/registrar/registration/course-outlines> for additional important information on the following:

- Wellness and Mental Health Resources
- Student Success Centre
- Student Ombuds Office
- Student Union (SU) Information
- Emergency Evacuation/Assembly Points
- Safewalk

### **IMPORTANT DATES**

The last day to drop this course with no "W" notation and **still receive a tuition fee refund** is **Thursday, September 15<sup>th</sup>, 2022**. Last day add/swap a course is **Friday, September 16<sup>th</sup>, 2022**. The last day to withdraw from this course is **Wednesday, December 7<sup>th</sup>, 2022**. <https://www.ucalgary.ca/pubs/calendar/current/academic-schedule.html#fall2017>



## TENTATIVE CLASS SCHEDULE

Date	Lab	Topic	Reading <sup>1</sup>
Sep. 14	1	Physiological homeostasis, stress, science, and human variation	your syllabus! Zimmer & Emlen (2016)- Ch. 1
Sep. 21	2	Forces of Evolution: Natural Selection	Zimmer & Emlen (2016)- Ch. 2, Creation (2009 film), HHMI (ND, finch video)
Sep. 28	3	Natural Selection (cont.) & Molecular Genetics	Bragg (2001)-podcast, Zimmer & Emlen (2016)- Ch. 5, HHMI (ND)- finch video, film: " <a href="#">Creation</a> "
Oct. 5	4	Population genetics & Inheritance of traits	Lewis (2020)- Ch. 15
Oct. 12	5	Forces of Evolution: Hardy-Weinberg, Genetic Drift (Founder Effect)	BBC & Rosling (2010), Smith (2014), Anywhere Math (ND), article of choice
Oct. 19	6	<b>Lab Practical # 1 (covers Labs 1-5)</b> Human skeletal biology I: cranium	Grimaldi, J (2009), BBC (2010), Salt (2009), Written in Bone, Keenleyside & Lazenby (2015)
Oct. 26	7	Human skeletal biology II: post-crania	Keenleyside & Lazenby (2015), Barry (2017), 2 articles of choice
Nov. 2	8	<b>Lab Practical # 2 (covers Labs 6-7)</b> Human skeletal biology III: aging & sexing skeletons, skeletal lesions	Preston (2014), Thompson (2015), articles of choice
Nov. 16	9	Primatology- <i>You go to the zoo on your own any time prior to Nov. 16. On Nov. 16, you will turn in your work and discuss your findings.</i>	Williams (2010)- Ch. 5, Marks (2018)
Nov. 23	10	Paleoanthropology: Oligocene to Pliocene	First Primates (2008), Marks (2018)
Nov. 30	11	Paleoanthropology: Genus <i>Homo</i>	Your Inner Monkey (2014), Wilson (2003), Warinner (2013)
Dec. 7	n/a	<b>Lab Practical # 3 (covers Labs 8-10 and evolutionary mechanisms considered in Class 3/Lab 2)</b> (no lab – practical only)	n/a

<sup>1</sup> Details concerning the assigned readings, podcasts, and videos can be found in the Question Sets for each week in D2L. Readings, podcasts, and videos assigned may change during the semester if I find a better source. Both the Question Sets and your labs will be posted in D2L at least one week prior to each lab. Note that you must read the lab for each week prior to coming to class.