



ANTH 305 (LEC01)
Human Variation and Adaptation
GFC Hours 3-0

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Lecture Location: ENA101
Lecture Days/Time: Tues & Thurs 12:30-1:45

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COURSE DESCRIPTION

In *Natural History*, Roman scientific writer Pliny the Elder (AD 23/24 – 79) remarked that, although human countenance is made up of only “ten parts or a little more,” people were so fashioned that “among the many thousands no two exist who cannot be distinguished.” Pliny’s words still resonate with us in 2021 as we seek to make sense the differences between people in the face of [COVID19](#) and [protestors crying out for social justice](#). How are we to explain this rich multiplicity of human physical forms? [Anthropology](#) can assist us in our efforts to answer this question. Anthropologists investigate the nature and causes of human variation as well as those characteristics that are common to all of humanity. In this course we will consider human variation from the perspective of the anthropological sub-discipline [biological anthropology](#) which focuses specifically on human biological variation. Biological anthropologists recognize that contemporary human variation can be explained by the interaction between biology and culture. Hence, our work is informed by evolutionary theory, biology, human evolution, the study of non-human primates, and the cultural context in which we find the variation (Figure 1).

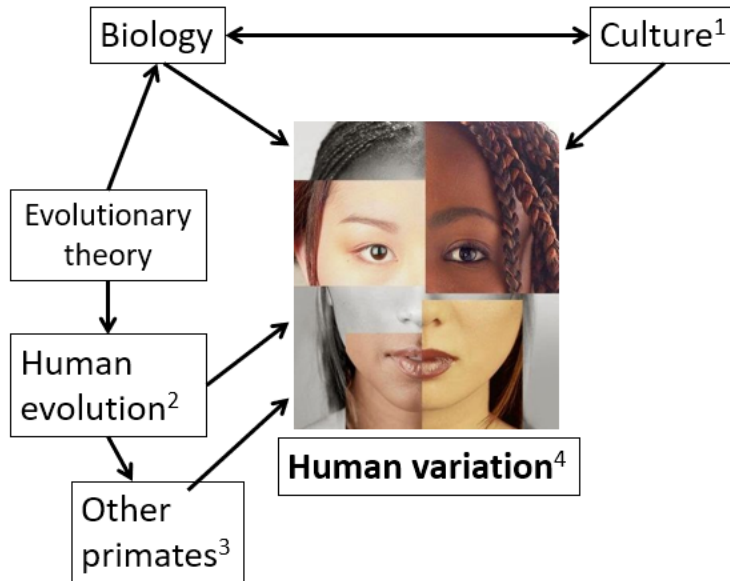


Figure 1: Variables which inform our understanding of contemporary human variation
 (¹ Cultural anthropology, ² Paleoanthropology, ³ Primatology,
⁴ Human Population Biology...2-4 are subdisciplines of biological anthropology!)

Utilizing the perspective of biological anthropology, the goal of this course is to introduce you to the scientific study of human variation (Figure 2). We will begin with a consideration of the origins and impacts of the concept of race and follow this with an overview of the scientific method and the anthropological approach to the study of human variation. We will then cover the biological bases of human variation in discussions of genes in human populations, the heritability of traits, and population genetics. In the latter part of the course we will look at human variation as the outcome of adaptation to a variety of environmental challenges. This course should help you to understand the biology underlying the variation of human physical and psychic forms and to sort fact from fiction in the contentious and clouded debates over human variation.

So, does this matter? Does this material have any bearing upon your life? I wouldn't teach this if I didn't strongly believe that it does. Do not, however, take my word for it. Ask these questions every time you engage with this course. I'll be curious to hear your answer when the course wraps up!

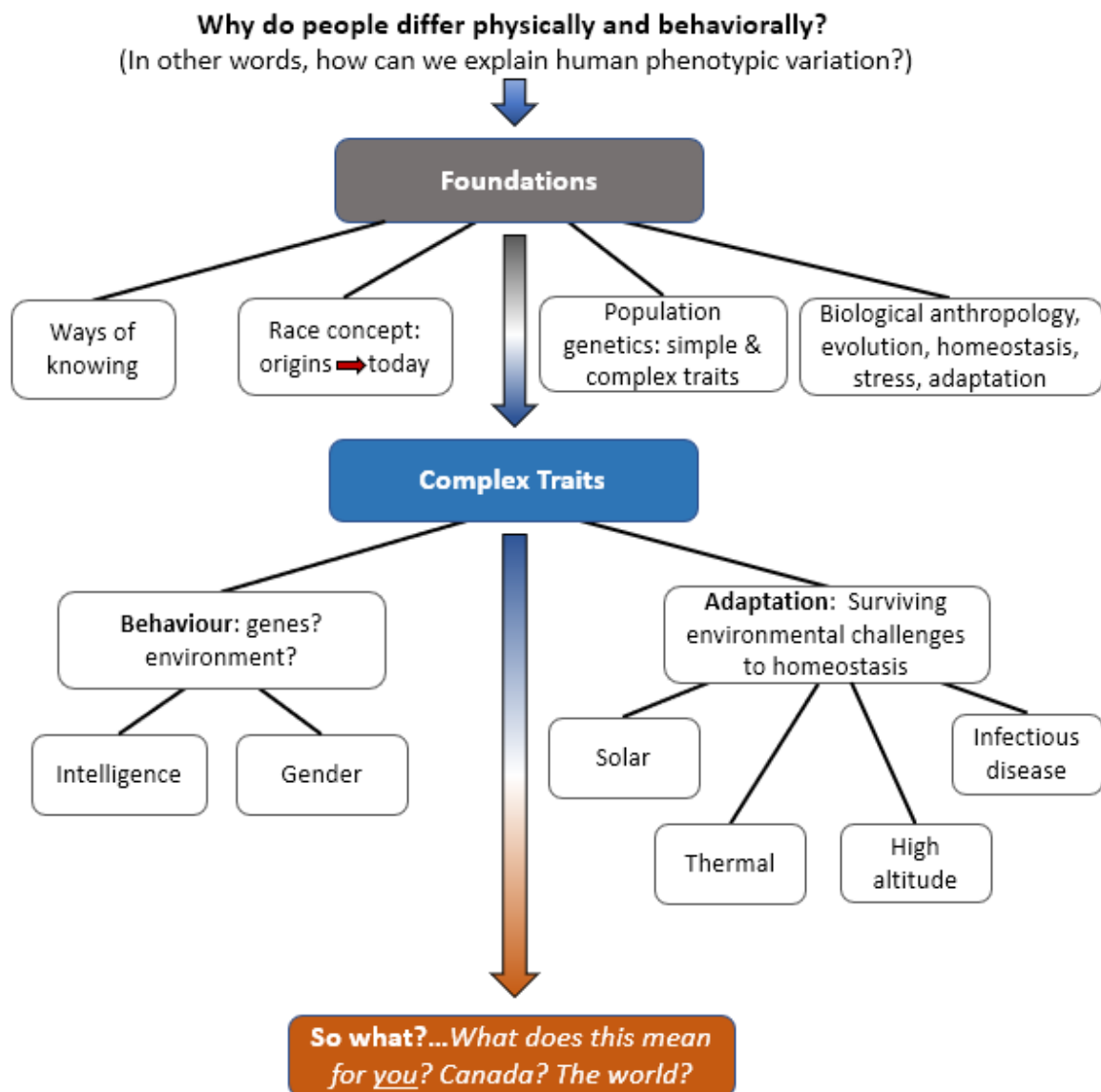


Figure 2: Course Map

Prerequisite(s): One of Anthropology 201, Archaeology 203, or Biology 205 or 241. You must have a basic understanding of molecular genetics, the inheritance of simple (Mendelian) traits, evolutionary theory, *and* human evolution prior to taking this course. If you are concerned about this, please contact me during the first week of classes.

READINGS AND TEXTBOOKS:

Reading, video, and podcast assignments are be found in the schedule below and Course Bibliography in the “Course Documents” section of the class Desire2Learn website. 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. One of the assigned videos in this class, [Genetic Me](#), must be rented for \$10.

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.

LEARNING OUTCOMES:

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

Upon completion of this course, you should be able to:

1. describe the goals and methods of the social and natural sciences and the humanities,
2. describe the history and current scientific understanding of the concept of race,
3. explain how a misunderstanding of human variation played a role in eugenics & the Holocaust,
4. describe sources of human phenotypic variation, in general,
5. describe the history and current scientific understanding of intelligence testing,
6. describe anthropological perspectives on gender,
7. describe the three levels of human adaptation to stress,
8. describe how humans adapt to solar radiation, cold & heat stress, hypoxia, and infectious disease,
9. *link the knowledge obtained in this course to your everyday life and events in the news.*

COURSE REQUIREMENTS AND ASSESSMENT

You will be evaluated based on your performance on two midterm exams, a comprehensive final exam, and reflective journals. The midterm exams are closed-book and will consist of 40 multiple-choice questions and four short essays and will run the entire 75-minute class period. Midterm #1 will focus on the material covered from 6-29 September. Midterm #2 will focus on material covered from 6 October to 1 November. The comprehensive final exam will be registrar scheduled and will focus primarily on material covered after Mid-Term Exam #2. While it will also cover material covered in Mid-Term Exams #1 & 2, it will not cover this material in the same level of detail as is the case in each of those exams. The assignment for the reflective journal can be found in D2L in [Content > Reflective Journal Assignment](#).

Your final grade will be calculated as follows:

Item	Weight
Mid-Term Exam #1	20%
Mid-Term Exam #2	25%
Comprehensive Final Exam	35%
Reflective Journal	20%

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 philosophy¹: In this course I do not seek to provide 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. I am not in the business not of telling you what you must think but of offering evidence that will allow you to reach your own 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

¹ 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](#)

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. Content Warning: As I note above in my “Teaching Philosophy” section, some of the materials and topics in this class will include explicit content (violence; sexuality; profanity; blasphemous, objectionable or illegal conduct). If you feel any materials may cause you distress or severe discomfort, you are encouraged to speak with me or the teaching assistant and/or take measures to ensure that you feel braver in the classroom. You will not be exempt from any assigned work, but we will gladly work with you to accommodate your concerns.

5. 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.

6. 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.

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.

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. 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

TENTATIVE CLASS SCHEDULE¹

Date	Topic	Required Readings, Videos, & Podcasts ²
06-Sep	How might we think about human variation? $V(P)=V(G)+V(E)$	course syllabus, Understanding Science; Kristof; Implicit Association Test-Race
08-Sep	Who am I?, Anthropology, Race, IAT	Culotta; Canadian Race Relations. Optional: Lipstadt; Gladstone
13-Sep	What is race?, Critical thinking sidebar: peer review, A cautionary tale, Race concept-informal origins	Akpan or Wiesel. Optional: ; Critchley; Statistics Canada; Weintraub.
15-Sep	Race concept-informal origins (cont.) & evolutionary theory, Critical thinking sidebar: research, natural experiments	Appiah. Optional: Bauer & Blumenthal; Milgram; SSRC; Amodio
20-Sep	Race concept-scientific origins, Why rejection of race concept?	Marks, Demby
22-Sep	Why rejection of race concept? (cont.)	Race the Power of Illusion. Optional: Barbujani et al.
27-Sep	Why rejection of the race concept? (cont.), What is race?	U. Utah – SNPs. Optional: Disotell; Whitman.
29-Sep	Implications of race concept: genocide, social Darwinism	Bouche & Rivard, Grekul et al.. Optional: Claeys, O'Connell & Ruse, Whitman. Optional: US Holocaust Memorial Museum.
04-Oct	Mid-Term Exam #1	
06-Oct	Sources of genetic variation	Lewis (Beyond Mendel’s Laws); U. Utah – Genomic Imprinting. Optional: Padilla-Iglesias, Weiss & Tackney (review of basic genetics)
11-Oct	Sources of genetic variation (cont.), genes, patterns of inheritance	Guerrero-Bosagna, Allis, Ghost in Your Genes. Optional: Mendelian Inheritance...; Informed consent...; Yehuda
13-Oct	Patterns of inheritance (cont.)	Jones (Calliban’s Revenge), Singer (2018). Optional: Radiolab
18-Oct	Quantitative genetics	Groopman; Lewis (Multifactorial Traits)

20-Oct	IQ, Intelligence, & Heritability. Sidebar: CRISPR	Lewontin (Mental Traits). Optional: The Economist
25-Oct	IQ, Intelligence, & Heritability	Resnick, Zimmer. Optional: Hidden Brain
27-Oct	Human variation in complex traits - Sex	Implicit Association Test-Gender; How is sex determined? Henig. Optional: Intersex Society of North America; Graves; Fausto-Sterling (2000), Padawar; Minto.
01-Nov	Human variation in complex traits – Gender (anthropological view)	Sapolsky. Optional: Belluck, Bergner
03-Nov	Mid-Term Exam #2	
8, 10-Nov	Reading Week -	no classes
15-Nov	Human population biology: homeostasis, adaptation, & stress	Stinson et al.
17-Nov	Adaptation to climatic stress: UVR	Jablonski
22-Nov	Adaptation to climatic stress: hot & cold	Steezman
24-Nov	Adaptation to hypoxic stress: high altitude & under the sea	Beall. Optional: Baranova et al.
29-Nov	Adaptation to disease stress	Sattenspiel & Slonim (pp. 387-418). Optional: Orent,
01-Dec	Adaptation to disease stress (cont.)	Sattenspiel & Slonim (pp. 418-425). Optional: Jacobs & Richtel
06-Dec	Adaptation to disease stress (cont.)	Sattenspiel & Slonim (pp. 426-438), This American Life (“Words”)
TBD	Comprehensive, registrar-scheduled, final exam	

¹ The schedule of topics may change, but the exam dates and assignment due dates will not change.

² For a detailed bibliography of the readings, please see [Content > Course Bibliography](#) in D2L. The reading, podcast and video assignments are subject to change if, during the present semester, I find publications which better cover the topic considered. If this occurs, I will inform you at least one week prior to the relevant class.

TBD = to be determined

IMPORTANT DATES

The last day to drop this course with no “W” notation and **still receive a tuition fee refund** is **Thursday, September 15th, 2022**. Last day add/swap a course is **Friday, September 16th, 2022**. The last day to withdraw from this course is **Wednesday, December 7th, 2022**.

<https://www.ucalgary.ca/pubs/calendar/current/academic-schedule.html#fall2017>