

HEB 144: *The Human Face: How evolution, growth, and behavior has shaped the way we look.*

Fall 2024

Lectures: **Monday 12:45-2:45pm**, MCZ 541

Instructor

Dr. Julie Lawrence (julie_lawrence@fas.harvard.edu)

Office Hours: Tuesday 1-2pm and by appointment at other times

<https://canvas.harvard.edu/courses/135832>

Course Description

What can your own face tell you about your ancestry, development, and health? Why do humans differ from other animals in having large brains and small faces? How much of your identity is, and should be, determined by your face (for yourself and for society as a whole)?

Newborn humans can recognize familiar faces and this facial fascination continues throughout our lives. Our faces are the means by which we perceive the world, and the world perceives us. The size and shape of the face has changed dramatically across human evolution. Some of our prehistoric relatives had massive brow ridges, others had huge teeth and enormous cheek bones, and modern humans have unique features such as our chins and our unusually big, globular brains. We will examine skulls from the human fossil record and explore how our social interactions and facial expressions, changes in what we eat and how we eat it, and evolutionary adaptations (sexual selection and cultural/environment influences) have molded the face and led to the variety of facial forms we see within and between populations today. We will explore the origins of human facial variation from our early primate origins, across the hominin fossil record, to the impact of modern soft diets and dentistry, changes in the perceptions of beauty, and the uses of facial recognition technology.

Key topics Human evolution/3D technology/facial variation/anatomy & physiology/genetics/psychology/sociology

What is the format of the course? We will meet weekly for HEB 144 on **Mondays 12:45-2:45pm**. The single 2-hour session will involve a short lecture on the topic followed by a seminar-style discussion based on the set readings and practical labs where we examine 3D skulls and scans. There will be ample opportunities for students to learn 3D shape analysis techniques and to conduct small projects on fossil and/or modern human/non-human ape facial variation with Dr. Lawrence.

How can I interact with the instructor outside of class? Feel free to attend office hours or email with any questions, concerns, or general thoughts on the course.

Course Objectives

Following the successful completion of this class you will understand:

- The major changes to the face across human evolution.
- How we interpret the facial skeletons from the fossil record to understand evolutionary influences on different parts of the face.
- How the modern human face reflects a combination of our ancestry, our more recent adaptation, and our modern lifestyles.

Course Policies and Expectations

Attendance and Participation: Attendance at live lecture sessions unless you have extenuating circumstances.

Lecture participation credit:

10% of final

PLEASE NOTE: students are **prohibited** from recording any class activity including lecture, lab, office hours *or posting any class materials to any website*. Students that violate this policy will be referred to the Harvard College Administrative board.

Collaboration Policy: Collaboration between students plays an integral role in the learning and processing of information presented in this course. Students in HEB 144 are therefore encouraged to discuss course material with course instructors and classmates to better understand the material. However, any work that you submit for evaluation after such a discussion **must** be the result of your own effort and **must** be submitted in your own words. To ensure the proper use of sources while at the same time recognizing and preserving the importance of the discussion and collaboration, the Faculty of Arts and Sciences adopted the following policy:

“It is expected that all homework assignments, projects, lab reports, papers, theses, and examinations and any other work submitted for academic credit will be the student’s own. Students should always take great care to distinguish their own ideas and knowledge from information derived from sources. The term ‘sources’ includes not only primary and secondary material published in print or online, but also information and opinions gained directly from other people. Quotations must be placed properly within quotation marks and must be cited fully. In addition, all paraphrased material must be acknowledged completely. Whenever ideas or facts are derived from a student’s reading and research or from a student’s own writings, the sources must be indicated.” (from Student Handbook)

We specifically forbid the submission of text from ChatGPT or any other generative artificial intelligence (AI) tools. These resources may be used in the preliminary stages of the work process,

but the output should be interpreted with caution and any ideas should be supported with peer-reviewed literature. Violations of this policy will be considered academic misconduct. We draw your attention to the fact that different classes at Harvard could implement different AI policies, and it is the student's responsibility to conform to expectations for each course.

Late assignments, and missed tests: If you require an extension on an assignment because of an emergency or Harvard-related reason (e.g., for seniors with thesis deadlines) **you must ask for the extension in advance of the deadline**; otherwise, late assignments will be downgraded by 5%/day late.

Missed tests cannot be made up unless you (a) arrange an alternative with Dr. Lawrence in advance, or (b) are ill and obtain proper University Health Services documentation.

Materials and Access

Course Website: The canvas website contains the syllabus and links to required readings and assignments. Class related announcements will also be disseminated through this page.

Textbook: *The Evolution of the Human Head*, Daniel Lieberman. Available online or at The COOP.

Copies of other assigned readings will be posted on Canvas throughout the semester.

Assignments and Grading

Assignments

You will complete two short written assignments (maximum 1000 words) and a final paper (maximum 2000 words). You will also complete one creative assignment on any topic related to the evolution of the face in a format of your choosing (written essay, poem, song, video, painting, experiment...).

You will also be asked (in a small group) to lead one of the group discussions of the readings and will complete small (ungraded) practical assignments throughout the semester as part of the class. For the practical assignments, you will need to bring a laptop with you to class.

Assignment 1-3: 45% (15% each)

Final paper: 25%

In class participation: 15%

Practical worksheets & submission: 15%

We will not curve this class. Following FAS guidelines, we will grade as follows: A range = excellent quality, full mastery of subject; B range = good comprehension of course material, and good commandment of skills; C range = adequate and satisfactory, basic requirements met; D range = unsatisfactory with minimal commandment of material.

Schedule

Sep 9 th	Introduction: why study the face? How do we study facial variation? What do we know and what don't we know?
Sep 16 th	How do modern human faces vary across the globe and how has the face changed across human evolution?
Sep 23 rd	How our face is shaped by: Being a primate. Phylogeny & comparative anatomy.
Assignment 1 due 29 th Sept	
Sep 30 th	How our face is shaped by: Being part of the head. Function & development.
Oct 7 th	How our face is shaped by: What we ate. Evidence from the early fossil record, tool use, and the origins of cooking.
Oct 14 th - No class – Indigenous People's Day	
Oct 21 st	How our face is shaped by: What we eat. Agriculture and soft modern diets.
Assignment 2 due 27 th Oct	
Oct 28 th	How our face is shaped by: Our expressive nature. Aggression, deception, and communication.
Nov 4 th	How our face is shaped by: Who we choose to mate with and who chooses to mate with us. Sexual selection & heredity.
Nov 11 th	How our face is shaped by: Us. Dentistry. A global perspective from prehistory to modern day practice. Cosmetic surgery.
Nov 18 th	The modern human face: chins, round heads, crowded teeth. Did we self-domesticate?
Assignment 3 due 24 th Nov	
Nov 25 th	Changing faces: how our perceptions of the face have changed across time and vary across cultures. Facial recognition technology and identity.
Dec 2 nd	Bringing it all together: The evolution and future of the human face
Reading week	Dec 5-10
Exams	Dec 11-20